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*Edited by Samuel Adams*

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No. 5

## Conference Requests a Fruit Committee

### To Investigate Fruit Problems Having National Significance

THE fruit growers of twenty-seven states, represented by sixty-five delegates met in conference, at the call of the American Farm Bureau Federation in Congress Hotel, Chicago, April 5th for the purpose of discussing marketing problems of national significance and after a consideration of many items, passed a resolution requesting President J. R. Howard of the American Farm Bureau Federation to appoint a committee to make the necessary investigations and recommendations.

Co-operative fruit marketing, tariff and transportation problems came in for the greater amount of consideration, as it is such problems as these that are of national importance and application. And in the resolutions passed at the close of the conference, a committee consisting of not more than 21 members was requested, whose purpose shall be to study the problems of universal interest and work out a plan whereby fruit producers may establish and conduct their operations upon the most favorable plan.

The conference was called to order by Samuel Adams, acting president of the American Pomological Society and editor of AMERICAN FRUIT GROWER, who, after a preliminary announcement and call for committees to pass on the credentials of the delegates and to prepare resolutions, introduced R. B. Peters, Devore, Calif., who made a very strong address on the "Tariff Needs of Fruit Growers." Mr. Peters stated that the world's production of lemons was confined to Italy and the United States. In Italy the production of lemons, and the manufacture of products, such as citric acid and lemon oil has become so extensive that it is a national industry and government monopoly. In the United States, while the production of lemons is large, the manufacture of lemon products is of comparative insignificance, and the exports of lemons negligible, Italy exports the major portion of its crop. After quoting some figures showing the cost of producing lemons in the United States as compared to similar costs in Italy he pointed out the importance of such protection of the lemon industry in this country as will enable it to compete with the foreign product.

#### Tariff Needed on Fruit

Mr. Peters mentioned the situation with other California fruits, and said that California cans and dries twice the quantity of many fruits than now may be utilized in this country, and that export trade is one of the great necessities for the California fruit growers. He indicated that a relief for the prevailing situation could be obtained by the enactment in this country of what he termed a "trading tariff" which would make it possible for an export business in fruit to be built up on a far more stable and profitable basis than is now possible.

At the conclusion of Mr. Peters' address, Mr. Adams introduced Gray Silver, Washington representative of the American Farm Bureau Federation who was to act as permanent chairman of the conference. Mr. Silver

after a few well chosen remarks on the tariff situation as applied to the fruit grower, opened the conference for the free discussion of tariff. Many growers had comments to make on the injustice of the present lack of tariff protection. C. R. White, Albany, N. Y., stated there was plenty of precedent for a reciprocal tariff, and that the export trade of our fruit and fruit products would thrive best through the enactment of such legislation.

It was generally agreed that agricultural products should be equally protected along with manufactured articles, and in order that this tariff matter could be presented to the conference in a definite form, R. P. Shackleford, Jerseyville, Ill., offered a motion that a committee be appointed to draft a suitable resolution for the conference. This motion was not presented, since it was stated by the chairman that the purpose of appointing a resolutions committee was for the purpose of drafting such resolutions as seemed desirable.

#### Transportation Discussed

The next topic to be discussed was that of transportation. Mr. Silver introduced B. F. Moomaw, Cloverdale, Va., who made the principal address on this subject. Mr. Moomaw made a very forceful presentation of his topic in its national application, and pointed out that under federal management of the railroads, the roads were assured of a six per cent return. He said he would be delighted to have a six per cent return from his labors, a remark which produced a chuckle of merriment throughout the audience.

At the conclusion of Mr. Moomaw's

address the subject of transportation of fruit was opened for free discussion, and it produced some of the liveliest comments of the entire conference, a fact which was indisputable evidence that it is a subject of direct interest to fruit growers everywhere. But, as was stated by Mr. Moomaw that he was perfectly willing for the railroads to charge enough for their service to enable them to operate, yet he was opposed to them charging so much as to prohibit others from operating, a similar attitude was expressed in all the discussions.

Senator H. M. Dunlap, Savoy, Ill., stated that if he could have unmanipulated markets, reasonable transportation rates and a plentiful supply of cars when they were wanted, he could take his chance.

There was a distinct lack of radicalism in any of the transportation discussions. It was a frank, open, fair-minded discussion, the consensus of which was that the prevailing freight rates were so high as to injure the fruit business, and some remedy should be found and put into effect.

President J. R. Howard of the American Farm Bureau Federation, who had been detained by other matters, arrived at this time, and was introduced by Chairman Silver. Mr. Howard was particularly gratified at the large number of delegates and visitors at the conference, and stated that they had been called together to discuss matters of national interest, since fruit growers have special problems because of the highly perishable nature of their product. He stated the United States has become the dumping ground of the world for agri-

cultural products of all kinds. At the present time this was largely because the exchange rates are particularly favorable for the importation of foreign products and because agricultural products have not enjoyed the same protection accorded to manufactured articles. "It is high time that farmers bestirred themselves as to their rights."

Mr. Howard remarked that world peace must come before business settles down to a stabilized condition. Fruit growing is a highly specialized line, but there are tremendous possibilities ahead for it. He emphasized particularly the big possibilities for extending fruit trade in the farm market—a field that is not yet touched in any comprehensive way by any one fruit or fruit product. He stated that farmers do not buy their fruits by the half dozen as does the city man, but rather by the box and barrel. The farm market is easy to open according to Mr. Howard. This statement is one that should be given prompt consideration by the great co-operative and private marketing agencies, as it has great possibilities for extending trade.

At this point in the conference, Chairman Silver announced the personnel of the two committees as follows: Committee on Credentials: O. W. Johnson, Geneva, O.; Paul C. Stark, Louisiana, Mo.; W. B. Armstrong, Yakima, Wash. Committee on Resolutions: B. F. Moomaw, Cloverdale, Va.; C. R. White, Albany, N. Y.; Sheridan Baker, Santa Rosa, Calif.

#### Join a Co-op.

At the conclusion of the noon recess the conference was opened by a forceful address from James Nicol, president Michigan Farm Bureau, South Haven, Mich., on the topic "Why Fruit Growers Should Join a Co-operative Association." Mr. Nicol based his remarks upon experiences in Michigan as the situation there was quite typical of those in any fruit producing community. Outstanding in the remarks of Mr. Nicol was the fact that members of co-operative associations handling any commodity should be tied up on a long time contract, and that their produce should be packed in a central packing house. He emphasized the central packing house plan and pointed out that it had a very marked effect in lowering packing costs. As an illustration he pointed out one central packing house in Michigan last year which handled the entire crops of 125 producers with a working force totaling 130 persons. Another important item emphasized by Mr. Nicol was the importance of having a manager to whom every member looked alike.

Aaron Sapiro, San Francisco, Calif., representing the California Pear Growers' Association and several other large co-operative associations from the Pacific coast made a few very crisp remarks and said the time is coming when all fruits in the United States will be co-operatively marketed. He said there is no place for the speculator.

E. N. Plank, Decatur, Ark., in discussing the co-operative marketing of

(Continued on page 7)

#### Resolution Requesting Appointment of Fruit Committee:

**MOVED** that the President of the American Farm Bureau Federation be empowered by this Conference to appoint a Committee, not to exceed twenty-one members, to be as truly representative as possible of the various fruit growers of this country, which Committee shall undertake a study of the various problems affecting the fruit industry, and shall, at the earliest possible time hereafter, prepare a report embodying a plan, or plans if such be deemed feasible, whereby all organizations of fruit producers may conduct co-operative fruit marketing through one or more central marketing organizations or such other solution of the fruit marketing problems as may be approved by such Committee. That when the Committee is ready to report, same shall be submitted to the President of the American Farm Bureau Federation and he is hereby authorized and requested to submit copies of the report to the various fruit growers and associations, and as soon as expedient thereafter, call a conference of duly accredited delegates representing the various fruit growers in each state having power to approve such plans as may have been formulated by the Committee and to provide for their execution.

It is further recommended that the Committee, as soon as possible after its appointment, shall arrange for securing sufficient funds from the various fruit growers and organizations to be used for the following purposes:

1. To provide for the expenses of the Committee while engaged in its study.
2. For the employment, by the Director of the Co-operative Marketing Department of the American Farm Bureau Federation, acting with the advice and approval of the Committee, of the best qualified man available as respects the knowledge of the fruit industry together with such assistance as may be necessary and the establishment and equipment of an office in Chicago, Illinois, for the purpose of providing the facilities for undertaking immediately studies in connection with the work of the Committee, of the problems of transportation, tariff, organization for co-operative marketing, distribution and consumption, and any other problems of interest and benefit to the fruit industry.

3. For the dissemination currently among these growers and organizations contributing financially, such data as may be of value to them in meeting their problems.



# Are Barreled Apple Packing Houses Worth While?

By E. W. Stillwell

Investigator in Marketing, U. S. Bureau of Markets

THE proportion of barreled apples packed in houses equipped with sizing machines is increasing and the use of the apron packing table whether in the orchard or under a roof is decreasing correspondingly. This change has been brought about partly as a result of the desire for greater speed and accuracy but chiefly because such equipment is necessary in satisfying the demands of the public for a more uniformly graded product. Contrary to the general assumption, the reduction of packing costs has not been the main factor.

An analysis of the figures gathered by the United States Bureau of Markets in the principal barreled apple sections shows that where packing is done over an apron table in the orchard the output per man is slightly larger than in packing houses equipped with sizing machines. This is interesting as it apparently supports the contention of the grower who claims that "packing houses equipped with sizing machines do not pay." But the cost of operation is only one factor. The main question is whether or not a sufficient additional price can be secured for the product to show a reasonable return on the investment. It is the urgent need for high standards of quality that has turned the attention of both individual growers and co-operative associations to the modern apple packing houses equipped with sizing machines and labor saving devices.

## A Basis for Cost Comparison

In considering the relative cost of packing in the orchard and in the packing house, it was found impractical to use the average cost of packing a barrel of apples as a basis for comparison. There is too wide a variation in wages and in local conditions. The factor which varies most widely and which influences the output of a crew to the greatest extent is the percentage of culls which must be sorted out of the orchard-run fruit. In representative orchards the amount varied from 3 per cent to over 50 per cent, and averaged 25 per cent where the fruit was packed in the orchard, and 35 per cent in the packing houses. The basis of comparison which has been adopted is the average output per man and the figures have been reduced to terms of output in barrels per man per hour. Thus, if a crew of six puts up 120 barrels in 10 hours, the output per man per hour is two barrels.

## Labor Costs About the Same

A typical orchard packing crew consists of two sorters, one packer, one roustabout, one header and one facer. Where it is necessary to sort out 25 per cent of the orchard-run fruit the average output of a six-man crew is about 115 barrels in 10 hours. If 35 per cent of the fruit must be culled it is difficult to maintain this even with an extra sorter. On the other hand, if the total amount of culls runs as low as 15 per cent a crew of six should consider an output of 150 barrels in 10 hours only a fair day's work. Under exceptional conditions where less than five per cent of the fruit was culled out one crew set a mark of 320 barrels in a 10-hour day. The average output per man per hour where 50 per cent of the fruit was culled was found to be one barrel; where 10 per cent or less was culled this average was two and one-half to three barrels and where 25 per cent of the fruit was removed from the orchard-run, the average for all orchard crews was 1.9 barrels.

A typical packing house crew consists of 14 men and the average daily output where 85 per cent of the orchard run fruit was removed by the sorters was 250 barrels. Reducing this figure to terms of output per man per hour shows an average of 1.78 barrels. Comparing this figure with the average output in orchard operations of 1.9 barrels shows a relatively insignificant difference but in this con-



An Apple Packing House in Pennsylvania That Can Pack 1500 Barrels Daily

nection it must be remembered that interest on the investment in the packing house and the depreciation on both house and equipment also constitute a proper charge against packing house operations.

It should also be pointed out however, that many packing houses are not run efficiently. They are poorly organized and frequently the volume of fruit is not large enough to run the house at capacity. The chances for increasing the output per man and reducing packing costs are much greater than in the orchard. Some of the best managed houses put up apples as cheaply, including overhead costs, as the better managed orchard crews and the output is more uniform.

## Better Sizing

Against the additional cost of packing house operations over orchard packing must be balanced the difference in the product of the two systems. About 85 per cent of the packing houses which were observed in operation, packed the apples in three or more sizes, i. e., two and one-fourth to two and one-half inches, two and one-half to two and three-fourths inches and three inches and larger. It is an almost universal practice in packing in the orchard to place all sizes above a certain minimum diameter together. In other words, orchard packing is cheaper because it is less careful and efficient. It seems reasonable to assume that because of the difficulty of hand sizing, the additional labor for necessary sorting, the lack of space and for other reasons, the average output of a crew of six would be reduced from 115 barrels in 10 hours to 60 or 80 barrels, if the apples were packed in three sizes. Such a reduction in output would more than offset the higher overhead expenses of the packing house.

## Advantages of the Packing Houses

It is true that many growers do not favor sizing barreled apples uniformly and cling to the time-honored custom of packing all sizes together. It is also a fact that in many instances these growers have received just as high a price for this type of pack.

The great point, however, is that the barreled-apple industry as a whole has suffered greatly from careless grading methods and that fruit put out in this package has been entirely cut off from certain classes of trade. Uniformly sized stock suggests more careful methods and consequently better grading and because the apple-buying public is growing wiser and more discriminating the demand for uniform sizes is increasing steadily. The assumption that uniformly-sized fruit is also better graded is borne out by the fact that an average of 25 per cent of orchard-run fruit was culled in the packing house as against 25 per cent in orchard operations. This relation existed when the general quality of the fruit was approximately the same.

## Better Organization

The packing house offers other important advantages. It provides a pleasanter place for the crew to work and it is possible to organize them to better advantage. There is always confusion and loss of time when it is necessary to move an orchard crew. Where a large crop is to be packed out many orchard outfits are necessary and competent supervision over them is difficult. Wasted effort under such conditions is common. One packing crew may have a surplus of fruit while another runs short. A packing house provides for a centralization of operations and such things are avoided.

In orchard packing it is necessary to maintain a close balance between picking and packing operations. If this is not done there is wasted labor and possible damage to the fruit. Many factors contribute to such conditions. When the pickers get into a part of the orchard where the crop is light the supply of fruit going to the packers decreases and they are not kept busy. Conditions are reversed when the pickers reach heavily loaded trees or when the fruit is badly blemished. The packers then have more apples than they can handle. Of course it is possible to maintain a balance between the crews by using pickers for packers and vice versa

and as conditions demand, this is frequently done. Such interchanges, however, break up the "team work" acquired by a crew working together for some time and decrease their efficiency.

The maintenance of a balance between picking and packing crews is not essential in packing house operations. Properly constructed houses have temporary storage space for unpacked apples and it is necessary only to provide a picking crew which will normally pick in a given time more fruit than can be packed. Any surplus of fruit thus accumulated at a packing house will quickly disappear when the pickers reach lightly loaded trees or are kept from working by bad weather. The advantage gained by keeping a packing crew busy during unfavorable weather is important.

## Better Protection and Equipment

Equipment, packages and fruit are protected from the weather at all times in a packing house. It is possible to use such labor saving machinery as gravity roller conveyors and hydraulic presses. Properly arranged belts or chutes provide for a quick, labor-saving, economical disposal of cull fruit. Weather-beaten barrels which may contain just as good apples as new clean barrels but which will sell for less money are avoided. Packed fruit does not stand in the sun or rain until it is hauled away.

The advantages of pack, protection and organization which a packing house affords easily outweigh in most cases the higher average cost of packing a barrel of apples. Furthermore, there are greater possibilities of reducing this cost in a house than in orchard packing. Many houses are now working under a severe handicap because of poor arrangement, faulty equipment and unnecessarily expensive features. The installation of sizing machines are not best adapted for barrels. They are more complicated, cost more and their capacity is smaller. Conveyors that saved little or no labor have been costly playthings. Growers have purchased 1000-barrel-a-day equipment for 500-barrel-a-day orchard with no beneficial results.

There must be available a sufficient volume of fruit to enable the crew to operate at full capacity in order to justify the expense of erecting a packing house. Co-operative associations solve this problem for the smaller grower and are operating successfully in various places notably in western New York and Michigan.

## Packing Houses Profitable

Conservatively planned and efficiently organized packing houses are profitable investments. They provide the best means for securing the high quality pack which the increasingly exacting requirements of the trade demand and offer advantages which the progressive grower will not overlook. Particularly is this the case with apple growers in localities where the barrel is the standard package. The methods which have prevailed in the past are not adapted to the packing of the high quality of fruit which is being demanded more and more in the great consuming centers. Such methods do not provide the necessary economy of labor and materials, and at the same time provide the uniformity of product that will enable barreled apples to compete on an even basis with boxed fruit from established sections. But in a well planned and equipped packing house, it is possible to make economies in the packing costs and to turn out a superior product over the commonly used field packing methods.

While a large number of apple packing houses for barrel packing have been put into operation in the past two or three years, more are needed. When suitably equipped, not only is speed and accuracy of sizing obtained, but the consumer demand for a more uniform product results. This in turn, shows itself in a better price for the product.



A Virginia Packing Scene, Primitive Equipment and No Protection from the Weather



# Advertising—A Factor in Fruit Industry

By C. I. Lewis, Associate Editor

IT HAS been said on good authority that eighty-four per cent of the bankrupts of America, never advertised. That advertising surely pays must be self evident by the enormous amount which is done by the most successful firms of America. For example, if we ask the reader to think of soap, he says "Ivory." The following commodities suggest their advertised product:

Soup, Campbells; pickles, Heinz; oranges, Sunkist; raisins, Sunmaid; canned goods, Del Monte; beverages, Coca Cola; coffee substitutes, Postum; gelatine, Jiffy Jell; loganberry juice, Phoe; walnuts, Blue Diamond; dried peaches, Blue Ribbon; cheese, Elkhorn; condensed milk, Carnation; watches, Elgin; oil heater, Perfection; paraffine, Parowax; aluminum, Wear-every; safety razor, Gillette.

You undoubtedly are familiar with many of the slogans that are appearing in the ads, for example, the following:

Grapenuts, "There's a reason." Paint and varnish, "Save the surface and you save all." Royal Typewriters, "Compare the work." Sunkist oranges, "Uniformly good." Blue Diamond walnuts, "The crackin' good." Midland prunes, "Tartsweet." Ivory Soap, "It floats," and "99.44% pure." H. K. McCann, "The truth well told." The New Edison, "The Phonograph with a soul." Packers Tar Soap, "Pure as the Pines." Nonesuch Mince meat, "Like Mother used to make." Bon Ami, "Hasn't scratched yet." The Victrola, "His Master's Voice." Skookum Apples, "Every bite a delight." Paul's Jams, "From the Valley of the Mountain." Undoubtedly also, you are acquainted with the official designs that are used for ads. We will refresh your memory on a few of these. For example:

Skookum, is the Indian head. Deerfield oranges and grapefruit, the stamp. Heinz, "57." The Hupmobile, the "H." Peter Henderson, an old man wheeling a barrow full of vegetables.



One of the Oregon Growers Sign Boards at a New York Elevated Station

tables. Bon Ami, the little yellow chicken. Victrola, the dog.

Now is it not evidence of itself that if you remember the names of the advertised products, their slogans, and designs, that the advertising has reached you and has paid? I am quite sure if you will sit down with a piece of paper and a pencil, for ten minutes, that you can add many to the list I have included.

The Quaker Oats Company was the first manufacturer of food products in the United States to advertise extensively, and they are today one of the greatest advertisers. The Heinz people with their famous "57" were very slow to advertise in the early days, advertising first in a few street cars, in Pittsburgh, later erecting an attractive booth at Atlantic City and finally taking up advertising in the elevated and subway lines of New York.

Some products have been put across in the last few years as the result of an intensive campaign. Such products as Jiffy Jell, Grapelande, Life Savers, and Postum Cereal, are examples of foods which have been extensively advertised and are now in universal demand. A concern like Armour & Company probably spends between \$3,000,000 and \$4,000,000 annually in advertising; Wrigley gums, about 2½¢ a person or about \$3,000,000 annually; drinks like Coca Cola, a million and a half.

One of the most interesting developments in advertising is that of the Literary Digest which has increased its circulation from 316,000 to 1,400,000, by spending \$1,000,000 a year in advertising. These products that I have mentioned however, are not fruits and you may ask, "Does it pay to advertise fruits?"

To get the best examples of this

we have to go to California. The California Fruit Growers' Exchange took hold of the citrus business when it was shipping only about 2,000 cars annually and selling everything in the "red." In 25 years they have built up a business which now amounts to \$60,000,000 annually and represents a shipment of about 40,000 cars. By spending in the neighborhood of \$1,000,000 annually they have made the Sunkist orange the best known orange in America.

The Walnut Growers' Association this past year, in spite of an importation of 50,000,000 pounds of nuts from Europe and Asia in October; in spite of the fact that the French franc was worth 12 cents a year ago, and only 6 cents this year; in spite of the fact that we had a falling market and tightened credits, nearly all of California's product was sold by February 1st, and over 80 per cent of the money in the growers' hands. The advertising of the Blue Diamond walnut, the "crackin' good" is to no small degree responsible for this wonderful merchandising.

We have seen how, by spending a quarter of a million dollars annually the Blue Ribbon peaches have come into such great demand, that the entire crop was sold this year at about 17½ cents a pound to the growers, whereas four years ago, dried peaches were a drug on the market and were wholesaling at 2 cents a pound.

The Associated Raisin Company is the best example of what can be done in advertising fruit. In 1913, out of 140,000,000 pounds of raisins produced, 30,000,000 pounds were left unsold. The Associated Raisin Company started advertising, investing about \$100,000 the first year. They have increased this budget until now it is probably nearer \$1,000,000 counting the recent newspaper advertising campaign which has been undertaken.

They have increased the consumption of raisins until now the entire (Continued on page 9)

## A Talk to Florida Citrus Growers Only

By E. H. Favor, Managing Editor

I WANT to talk right out loud this time to the citrus fruit growers of Florida. No one else should read any farther in this article, if he is not interested in the production of citrus fruits in Florida.

To the growers of citrus in the Seminole state, I want to say emphatically, that I am convinced one of the great reasons why you have obtained no better prices for your crop this year is because too much of it hasn't been worth the money. No sir, it hasn't been worth any more than you have received. You have been lucky, very lucky to have done as well as you have. While your fruit is just as juicy as could be desired, and is filled with concentrated goodness, much of it is about as ugly in appearance as citrus fruits can be, particularly oranges and grape fruit.

### Make a Comparison

Just as a comparison, look at the apples grown in the Pacific Northwest. If the apple growers of Oregon, Washington or any other far western state would ship apples into Florida that looked as bad as much of your citrus looks, they would go broke. You wouldn't buy such apples.

Nature has been very good to citrus growers in making it possible for you to produce delicious fruits with a minimum of effort. But it is up to you to put the finish on the fruit that will make it stand out and meet competition. Florida oranges and grapefruit needs to be "dolled up" in looks. Just as soon as you put the golden skin on these fruits by removing the

cause for the russet, you will see your sales extend, your yields increase and your profits heap up. Thorough spraying will do it.

May is the month when the citrus fruit trees of Florida should receive a very thorough application of oil spray for the control of some of the most expensive boarders that infest them—the white fly, rust mite and scale insects. It is one of the most profit making applications of the season, and not a grove in the state should escape it.

Too much of the citrus that went out of Florida this past season was badly russeted by rust mite, scarred by thrips, flecked by purple and red scale, and otherwise showing defects common to unsprayed or poorly sprayed fruit. Just how much money it cost Florida citrus growers to feed these pests no one knows with any degree of accuracy, but it must have been well above the two million dollar mark. To have thoroughly sprayed the groves and reduced this loss to an insignificant sum would have been but a small fraction of the cost.

### Can You Pay the Bill?

Can Florida citrus growers stand the expensive board bill run up by these useless pests? Can you afford to pay the feeding charges exacted by the destructive insects that infest your groves? Most assuredly you cannot if you expect to make a profit for yourself. In view of the ex-

sive freight rates, which may continue into another shipping season, Florida growers cannot afford to market fruit that will not leave a profit after paying the heavy production costs and freight bills—unless they obtain their living from some other source.

Thorough spraying of citrus groves pays big dividends. It is the only effective means of producing fruit of the grades that brings the high prices. It is the only effective means of producing fruit that can be marketed as "bright" with the full assurance in advance that it will be bright, clean and free from the sooty mould and scale that must be scrubbed off at packing time.

Too much citrus this past season was below a profitable standard, simply because of its appearance. Appearances count with citrus fruits, just as with any other commodity. Consumers buy fruit largely by its looks. The clean, bright waxy skin of an orange or grapefruit makes an appeal to the palate that is hard to resist, but there is nothing appealing in the looks of a russet. That is why the fruit stand merchants in many cities have forced such fruit onto their trade with the statement that "it is sweeter."

Does such fruit make a profit for you? Your income tells the story. When russets sell for \$2 or \$3 a box, and brights for \$5 or \$7, with both of them carrying the same freight and

packing cost, even a blind man could see which was the most liable to bring in the profit. Yet when thorough spraying produces a crop that will pack 90 percent bright, against 80 percent russet where there is no spraying, who would be so foolish as to omit the spray?

### Time to Wake Up

Florida growers should arouse themselves to the money value of giving their groves thorough treatment with suitable spray materials at the proper seasons. Next to fertilizing, it is the most important operation in grove management and next to fertilizing it pays the biggest profit of any work that can be done in the grove.

This profit comes partly from the grade of the fruit being raised to a higher class because of its lack of russet, scars and stains. It also comes from the increased yield, as sprayed trees are more vigorous.

Remember that, Florida growers. It is your profit that feeds the rust mites, white flies and scales. That expensive fertilizer that you apply to your soil yields up its elements to fatten bugs instead of your bank account. Which is the most comforting to you? There is beauty in the white fly. He is a charming little creature when viewed under a magnifying glass, but he don't pay your income tax. Instead, he takes a part of your income in advance, and obeys the biblical admonition to multiply and re-

(Continued on page 11)



# With Our Editors

## Let's Down the Fruit Juice Fakes

**H**IST, come with me and I will show you where to get the real stuff. Down this dark alley, turn to the right, dodge through a dark hallway—

You won't need any such inside information to get real fruit drinks if the AMERICAN FRUIT GROWER'S campaign against misbranded and misleading imitations continues to be as successful as it has been up to date.

For the protection of our subscribers who raise the fruits that make the real fruit drinks, we have, as you know, waged a long and hard fight against imitations, and the Department of Agriculture has been with us on this and has rendered splendid service in checking up promptly on any cases we have reported and in bringing suit and getting conviction for those who are really doing the wrong thing.

The Department has now ruled that terms such as "ade," "squash," "punch," "crush," and "smash," when used in conjunction with the name of any fruit, can be applied legally only to beverages which contain the fruit or juice of the fruit named. When such terms are applied to beverages flavored only with essential oils or essences, they are illegal, and the manufacturer and the vendor can be punished. And believe me, they will be punished if Samuel Adams finds them out.

I am writing this brief item both to let you know that my efforts have met with pleasing success, and also to impress upon you the way that you can help me make this service even more universally felt.

There are some beverages, I have learned as I have traveled through the United States, that are marketed in only a small territory; in fact, there are only a few that are marketed all over the United States. Perhaps there may be some in your locality that I would not run across unless you told me about them. Whenever you pass a store window that displays fruit beverages, whenever you visit a soda fountain, or any place where soft drinks are sold, be sure to study the labels carefully, and if you find any that look suspicious to you, report them to me at once.

The Food and Drugs Act requires imitations to be labeled with the word "imitation," together with a statement showing wherein it is an imitation, and this ordinarily requires a declaration of those ingredients, whether, for example, it contains essential oils, citric acid, or artificial color. Remember this very carefully in studying the labels of the so-called fruit beverages that you find in your vicinity.

I want to quote a letter from the acting chief of the Bureau of Chemistry, which explains very fully the results obtained by action of this department against manufacturers of imitation drinks during the past year.

"During the past year, the Bureau has endeavored to regulate the labeling of beverages, the labeling and advertising of which would lead the consumer to believe that he was getting the juice of the fruit, when as a matter of fact he was merely getting a sugar syrup artificially colored and flavored with oil obtained from the rind of the orange. As a result of numerous cases developed by the Bureau against the proprie-

**And Build Up the Market and Manufacture of Pure Juices.**

**It Is the Solution of Surplus Fruit Problem.**

By SAMUEL ADAMS, Editor

tors of such products, the labeling of these articles has undergone a marked change. Designs of whole fruit, and names which lead the consumer to believe that he is getting the juice of the fruit have been eliminated from the labels of products which do not contain fruit juice. Where the names have not been changed, the proprietors are putting in orange juice, and as a result of the Bureau's action, one company has a contract for 50,000 gallons of orange juice, and expects to use twice that amount next year.

"One of the chief reasons for the Bureau's attitude toward these products, aside from correcting misleading features on the labels of food products coming within the jurisdiction of the Federal Food and Drugs Act, has been the healthful qualities of most juices. Orange juice in particular, as is well known, is frequently prescribed by physicians to children and convalescents, and the Bureau has been very anxious that no false claims as to the presence of fruit juices shall be made on the labels of beverages."

So you see, it pays to fight. When we know we are right, we certainly can gain our point when we stick to it. The fight is not over yet by a long ways; in fact, we shall perhaps have to always keep our eyes on these fake fruit juices and if all of you will

lend the service of your eyes to supplement my own, we can keep them down to the minimum, if we can't eliminate them entirely.

**C**ALIFORNIA has presented to its legislature a bill for enactment into a law that will go a long ways toward elevating the pure fruit beverage to its proper position. Under this law, no beverage can masquerade as a fruit drink without having been made from fruit. It is a good bill, and its passage in the great fruit state of California will be of inestimable benefit to the fruit industry of that state. The same bill should be offered in every state legislature. I want to urge readers of AMERICAN FRUIT GROWER to see to it that this bill, a copy of which appears on this page, is presented to the legislature in his own state.

This bill will meet the strongest kind of opposition from the manufacturers of synthetic fruit beverages. Of course it will for it takes away their own bread and butter. They will raise a lively fuss about it, of course, for it will cut deep down into their profits. But let them fuss. We are interested in the safety of the fruit business, and the infant industry now growing up in the fruit juice field must not be stopped by the coal tar dye-sugar-water-fruit flavored beverage makers.

Last year the soft drink manufacturers sold nearly a half billion dollars worth of their concoctions, and the gullible, thimble public swallowed the thousands of gallons of alleged fruit juices to the injury of their health. Not only did the consumers suffer from it, but the fruit grower likewise suffered—suffered because his fruit wasted while the consumer drank an imitation fruit juice and thought it the real article.

Just think of the immense sum of money that changes hands yearly for soft drinks. But a small portion of this trade is made up of pure fruit juices. Although very extensive and splendid advertising has been done for grape juice and increased its consumption to the greatest of any fruit juice, the value of the grape juice consumed is but a drop in the bucket.

Fruit juices should be consumed by everyone. The unfermented, pasteurized juice of most fruits, not only is a very palatable, refreshing drink, but it is healthful. The vitamins contained in fruit juices are absolutely necessary in maintaining good health. There are no vitamins in false fruit drinks, nor is there any food value, no matter how good the stuff may taste, or how nice it may look.

But there is another side to it, and that is the profit side for the grower. It takes good fruit to make good fruit juices. The every ton of fruit that goes into juice takes just that much out of the fresh fruit channels, and tends to raise the price. To make the juice, more factories are needed. There are not nearly enough fruit juice factories or canneries equipped for the purpose to handle more than a small share of the possible trade that can be developed. But this will come when pure fruit juices do not have to meet the competition of synthetic products that are called by fruit names.

### CALIFORNIA'S FAKE FRUIT DRINK BILL

An act to prevent fraud or deception in reference to beverages and prescribing penalties for violation of the provisions hereof.

The people of the State of California do enact as follows:

Section 1. No person by himself, his agents or servants, shall render, manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, or to use or to serve to patrons, customers, boarders or inmates of any hotel, dwelling house, restaurant, public conveyance, boarding house, or any other place any misbranded beverage.

Sec. 2. Any beverage, drink, or potable liquid, is hereby defined to be a "misbranded beverage" if it consists in whole or in part of a synthetic mixture and

(a) When sold, offered, or exposed for sale in a bottle, can, cask, keg, or other container, said container bears any statement, design, or device indicative of the name of any fruit or of the natural juice, or extract thereof; or

(b) When served to patrons, customers, boarders, or inmates of any hotel, dwelling house, restaurant, public conveyance, boarding house, or any other place where a beverage, drink or potable liquid is sold or offered or exposed for sale, or where it is mentioned on the menu card, or similar notice or placard under a name indicative of the name of any fruit, or of the natural juice or extract thereof.

Sec. 3. Any person, firm or corporation that violates any provisions hereof is guilty of a misdemeanor.



## Fruit Committee Requested

(Continued from page 3)

fruits, said the basis for successful co-operation was in the local association. He illustrated his remarks by telling in a very interesting way some of the activities of the Ozark Fruit Growers' Association, which last year did a business amounting to over a million dollars. That association has its own men in the great market centers who keep the home office supplied with detailed information on supply, demand and prices, on which information the central office is able to move the crop in a profitable manner.

### Eat More Fruit—Slogan

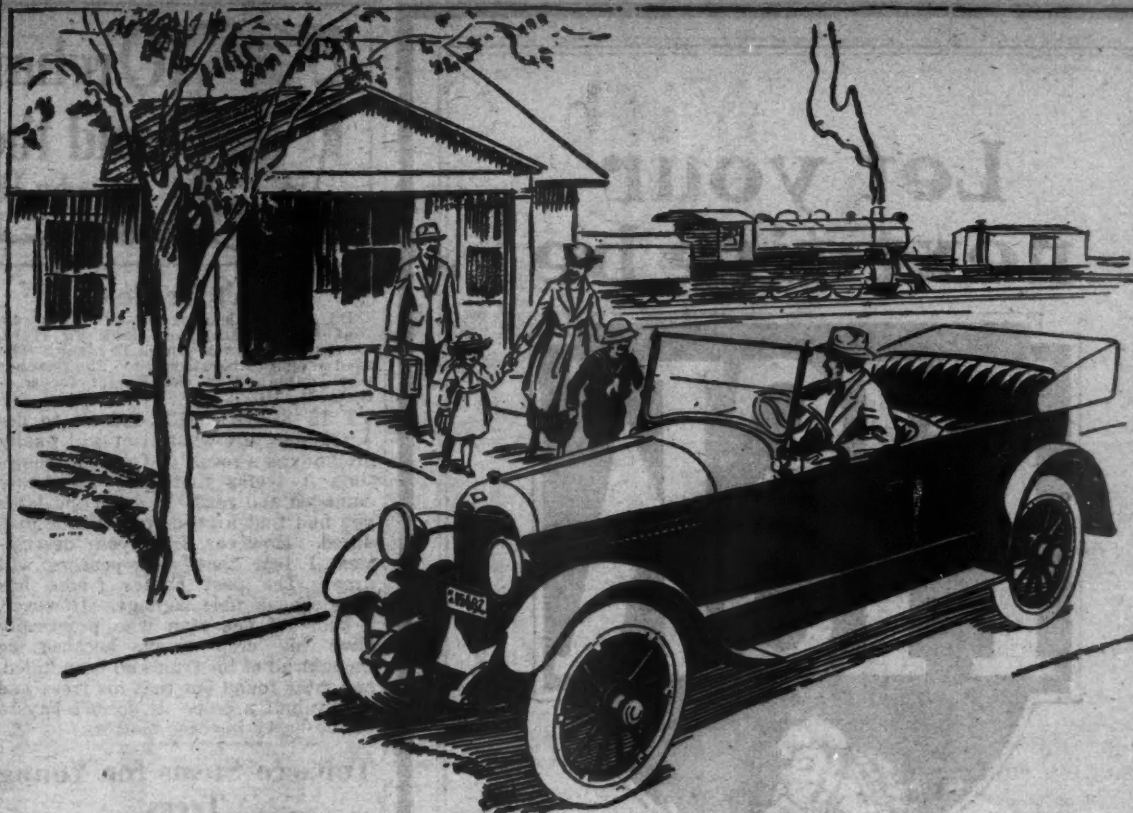
The matter of increasing consumption of fruit came up for discussion, as this is a matter of deep concern to all producers. It is the basis for market activity, and while distinctly local in a sense, it is really a national problem. President Howard made mention of the possibilities of the farm market in his brief address. In enlarging upon the topic, B. F. Moomaw stated that the lack of co-ordination in the industry resolves itself in the matter of distribution. Fruit growers are just beginning to merchandise their fruit. Stuff has not been put on the market in such a form as to bring repeat orders and it is the repeat orders that swell the quantity of fruit that is consumed. But it is essential, according to Mr. Moomaw that the distribution of all fruits be controlled entirely by the producer, as he is more intimately concerned with its consumption and the logical person to increase its use. He spoke particularly about advertising as a class stimulator and the need for more extensive advertising of fruits for the purpose of enlarging the markets and stimulating the demand.

Other addresses were made by Murray D. Lincoln, secretary, Ohio Farm Bureau Federation, who showed how the Farm Bureau was in a position to render to farmers and farm organizations a real service in the solution of marketing and legislative problems. R. C. Pollack of the Federation drew a striking analogy between the co-operative milk marketing organizations of Minnesota and co-operative fruit marketing associations. A. M. Geary, Portland, Ore., made a forceful talk on the marketing situation as it prevails in the Northwest.

Clark Allis, Medina, N. Y., in some remarks on fruit juices made mention of the co-operative fruit packing houses that were established in New York state last summer, some 30 in number. He said that from these packing houses last year the cull fruit was sold for just about cost, but that if these culls had been worked up into pasteurized cider, it would not only have provided a more profitable thing for the fruit grower, but would have so reduced the volume of fresh fruit, that the prices would have been materially stronger. According to Mr. Allis, some \$500,000,000 was spent in the United States last year for soft drinks. Of this huge sum, barely \$8,000,000 went for grape juice, and the remainder for synthetic beverages of various kinds, some of which masqueraded as fruit juices.

He pointed out the great future for beverages made directly from fruits, not only as to their healthfulness, but as to the effect of such products upon the price of the fruit. In the discussion that followed, Samuel Adams called attention to the pure fruit juice bill that has been presented to the California legislature, and urged that all delegates see to it that a copy of the bill be presented to their own legislatures for enactment in their respective states. Such a bill would have far reaching effect on the fruit beverage trade and upon the prices of the various fruits put on the open markets.

At the conclusion of the conference, the committee on resolutions made its report and the five resolutions that were offered were passed.



# PAIGE

*The Most Beautiful Car in America*

## Three Factors of Quality

The great nation-wide success of the Paige New Series "Glenbrook" model is founded upon three attributes—Beauty, Performance and Economy.

When a man first looks at this car he is captured by the exquisite finish and long, graceful lines. He realizes that it is an unusual art creation—a newer and finer conception of the five passenger vehicle.

And then comes a trial on the road—one thrilling experience behind the motor that accelerates from five to twenty-five miles per hour in nine seconds flat. That ride is never forgotten and it leads inevitably to proud, enthusiastic adoption.

Later comes indisputable proof of low gasoline consumption, long life of tires and care-free, untroubled mileage. And last—but far from least—comes the confidence and respect that only fine products command. Such is the cause and effect of "Glenbrook" ownership.

### New Series "6-44" Models

Glenbrook Five Passenger Touring Car	- - \$1795 f. o. b. Detroit
Ardmore Four Passenger Sport Model	- - 2015 f. o. b. Detroit
Lenox Roadster Two Passenger	- - 1795 f. o. b. Detroit
Coupe Four Passenger	- - 2600 f. o. b. Detroit
Sedan Five Passenger	- - 2720 f. o. b. Detroit

*Cord Five Pass.*

**PAIGE-DETROIT MOTOR CAR COMPANY, Detroit, Michigan**

*Manufacturers of Paige Motor Cars and Motor Trucks*



Let your  
next tire be



Trade-Mark Reg. U. S. Pat. Off.  
Time to Re-tire?  
(Buy Fisk)

**We believe in equity for the farmer**

**I**N tires, our idea of equity is to build a casing definitely for the rough, all-around use a farmer must give his car, at a price which makes rough driving cost less per mile.

We have done that in the Fisk Red-Top, and we are frank to say that no tire can give a higher average mileage under the severe test of a farmer's work-a-day driving.

It is made extra strong with an extra ply of fabric and a heavy tread.

It is a tire which need not be coddled—one from which you may properly expect the excess mileage true of all Fisk Tires.

Our 140 branches enable your dealer always to have in stock fresh tires of this year's building.

**Sold only by dealers**



## Orchard Problems and their Solution

by Paul C. Stark  
Associate Editor

### Don't Be Hasty

Do you think peaches will hang on that are growing and look all right except the kernel, which is black. The seed seems to be all right. The peaches were damaged in the Easter freeze.—G. C. P., Ill.

**IT IS SOMETIMES** difficult to determine just what fruit will finally drop off, as a result of freezing. Sometime it seems that they are badly damaged and ready to drop, and later you find that a good crop will be produced. However, from your description, I fear that your peaches will drop. The past Easter freeze has done considerable damage. However, I know of one man who practically gave his crop away, because he thought all of his fruit had been killed, and later found out that his trees had nearly half a crop. It doesn't pay to be too hasty in these matters.

### Tobacco Stems for Young Trees

Will be pleased to have your advice on tobacco stems from cigar factory, the best way to use as a mulch and amount to apply to trees, say 8 and 12 years old. Could Black Leaf 40 be made from stems, if so, how could I test same for proper strength?—T. M. V., New York.

**TOBACCO** stems are valuable around apple trees for two purposes—first, as a fertilizer and second, to prevent woolly aphis from getting on the roots of the trees. They are also good for a mulch. They could be scattered around the base of the tree and thus used as a mulch and as they disintegrated, the fertilizer would go into the ground. I should judge that 3 or 4 pounds to the tree would be sufficient. In using nicotine sulphate the manufacturers recommend that it be diluted, 1 gallon to 800 gallons of water, or in other words, 1 pint to 100 gallons of water. It can be used in with lime-sulphur and arsenate of lead to make a combination spray. You could make a tobacco extract but not nicotine sulphate which is extremely concentrated.

### Peach Fillers in Apple Orchards

In regard to setting a commercial apple orchard it is considered profitable to set peach trees between rows, expecting the peach to bear early and help to maintain the apple orchard? If this is advisable on fresh land, please state how far apart to set trees and best method of cultivation. I would like to raise potatoes and some small fruit such as blackberries and strawberries. What age is best to set, one or two year olds?—T. A. C., Illinois.

**M**ANY of the successful orchards of the country have been planted with apple as permanents and peach fillers. Where this system is used intelligently it has given satisfactory results. However, if the peach trees are left in so long that they crowd the apple trees, it will, of course, cause injury. If you keep your soil in good shape, well cultivated and fertilized and use cover crops, you can maintain the soil fertility and get some very valuable crops from your peach tree fillers before they have to be cut out. The standard way of planting is to put apple 30 feet apart on the square, and use the peach fillers in the center of each square. This is what is known as the quincunx system. Where you are using intercrops of potatoes or some other cultivated crop, might be advisable to plant the fillers right in the permanent rows. In this case, it might be advisable to plant apple slightly farther apart, say 33 or even 36 feet apart and the peach fillers in between the permanents. By

this last system it allows a wide space in between the rows for cultivated crops or small fruit crops such as strawberries, etc.

The question of one or two year old trees depends on the individual. Some prefer one and some the other. The one year tree has a number of advantages over the two year trees. There is less shock to transplanting the one year tree and it is much easier to develop just the kind of head you prefer than with two year trees which has the head developed in the nursery. The one year tree also recovers quicker from the transplanting and at the end of several years it will have just as much growth as a two year tree. In a dry season a one year tree would stand a better chance than a larger two year tree.

### Bridge Grafting

We have a home orchard of young trees which we set out last spring. They all grew well, but the rabbits peeled some of them last fall before we had thought of its being time to protect them. None of them were completely girdled, so I thought they would live, but a few around the edge of the orchard are not leafing out and I want to know if there is anything I can do for them. Several years ago in some paper I saw a picture of a tree that had been girdled which has small twigs or branches fastened some way to the tree with one end of each twig above the girdle and the other end below, so that the sap passed through them over the girdled part. Could you explain how to do this, if it will pay to do it?—V. B. H., Illinois.

**THE** method you refer to for saving trees that have been girdled is "bridge grafting." It will certainly pay you to do all you can to save your trees. The edges of the wound on the body of the tree should be trimmed smooth, then cut young scions or twigs of the past year's growth, and these should be cut about one or two inches longer than the height of the girdle. Each end of the scions is cut on a slant, and then scion is placed so that the slant is next to the body of the tree and the end is under the bark. The two ends are waxed over and held in place by tying with strong bandages. Quite a number of these scions are placed around the tree, depending on the size of the trees. These scions form the connection between the roots and top. There are numerous variations of the above method, but this gives the fundamentals. It must be remembered that the cambium layer of the scion and stock must be held close together so that they will form the union. There are various protectors that will prevent the rabbits from injuring the trees.

### Ground Cover

I have a poultry yard that is somewhat sloping. I have had it in oats but for some time it has been destitute of grass or any kind of growth to protect its soil from washing. Would it be good policy to sow grass seed and crimson clover in late winter and throw corn stalks over the ground to keep it from washing until these seeds get started? When is the best time to trim raspberry canes? I trimmed and cut back some of mine to about 3 feet of the ground and they died down, as I am afraid to cut them back.—A. H. West Virginia.

**I** WOULD suggest that you sow hairy vetch on this ground to keep it from washing. I would sow the seed in early spring and then do whatever you can to keep it from washing. Vetch will succeed on poor land and as it is a legume like clover it enriches the soil.

Raspberry canes should be cut out immediately after the crop is harvested so that the young shoots will have a chance to grow.



## Advertising— A Factor

(Continued from page 5)

crop is being consumed. At present, the American people are eating three pounds of raisins per capita. The raisin growers plan in the next few years to increase this to six pounds, and they will do it through their advertising. Similar results have been obtained with all of California's fruits, and is now being obtained on a smaller scale by the fruits of the Pacific Northwest.

### Evolution of Advertising

It is interesting to compare the early fruit advertisements of California with the large, finished advertisements of today. During the war the luxury effect was brought into the advertising of dried products. Beautiful tables richly set with attractive linens, dishes and silverware. Fine hangings, beautiful flowers, and so forth were included in the advertising. Today it is the economy appeal. People are beginning to retrench, and the advertising is appealing to the pocketbook.

Of late there is the health appeal, of certain foods, owing to the presence of vitamins. You will note there is also the beauty appeal, showing that the use of certain fruits result in better health and greater beauty. The last appeal which is being developed on a tremendous scale is that of new uses for well known foods. For example, the last few months the raisin people are advertising raisins as a breakfast food to be eaten like prunes and figs.

### How to Start in Advertising

In the first place, we must obtain a large tonnage. This means that the individual can do little advertising, but that we must work together in large groups. Second, if possible get into the package goods. Sell your fruit in some container that goes to the buyer's home. Third, set aside for advertising some definite percentage of the gross sales. The average so set aside by most concerns is 2 per cent or 3 per cent. Secure a brand and a trade mark and promptly have it registered to cover any products which you may ever expect to handle.

Choose some advertising agency. They will give you hints on how to handle your business and will practically cost you no more. The general commission of 15 per cent which the agency collects is paid by the newspapers, magazines, and similar journals. The agencies have a tremendous fund of information. They have experienced men. They have artists and copy-writers. If you only have a small amount of money to spend in advertising, be sure and centralize or localize it. Do not attempt to enter a national campaign of advertising with a budget of less than \$100,000.

Choose your localities with care. Choose your mediums with care, and good results can be obtained. In addition to magazines and newspapers, elevated and subway lines, much can be done through window displays, through prize contests, recipe contests, etc.

As advertising has paid in all food stuffs, in manufactured articles and with any article that the American public can use in large quantities, so the same kind of advertising will pay in agriculture, will pay with any of our fruits, dairy products, poultry products, and so forth, if this advertising is well organized and judiciously handled.

This is the sixth and last of the series of articles by Mr. Lewis on the co-operative fruit marketing associations of the Pacific Coast.

### MARK YOUR PACKAGE

Many fruit growers who ship fruits outside of their state are not aware that each package of fruit shipped by them outside their state must bear a label stating the quantity of fruit, that is, the number of pounds, quarts, etc., contained in the package.

# Willys LIGHT JUNIOR Only \$295

## Rock Bottom Prices are Here

EVERY home in North America can now afford electricity. The demand for lower prices has been met. Never before in the history of farm light and power have such values been offered. Think of it! A standardized electric light and power plant big enough for light and small power needs for only \$295.

This price is only possible at this time because of intensive effort directed to engineering and production plus a determination on the part of Auto-Lite to meet the farmer

more than fifty-fifty on price reduction NOW. Rock-bottom prices are here.

Willys Light Junior is a smaller plant. In every other respect it measures up to Willys Light in quality. It is air-cooled, has the wonderful Auto-Lite engine generator and standard voltage. Willys Light Junior puts electric light and power within the reach of every one.

600 Watts—32 Volts—80 A. H. Battery, \$295; 160 A. H. Battery, \$365; 240 A. H. Battery, \$435. All prices F. O. B. factory.



Power and Light with  
the Quiet Knight

## Now \$525

THIS extraordinary reduction in the price of Willys Light is but further proof of the Auto-Lite ability to produce quality products on a quantity basis.

This famous plant is equipped with the Willys-Knight sleeve-valve engine that improves with use, an exclusive superiority. In addition Willys Light has fifty distinct advantages.

Its wonderful record of success in making home life brighter and farm work lighter, together with its remarkable new low price, warrants you in buying now.

There is a dealer near you ready to serve you.

1,250 Watts—32 Volts—160 A. H. Battery, \$525; 240 A. H. Battery, \$595. All prices F. O. B. factories.

### Wonderful Dealer Opportunities Available

Address Department 675

WILLYS LIGHT DIVISION—ELECTRIC AUTO-LITE CORPORATION, TOLEDO, OHIO

VENTILATED PAD  
ATTACHED



Patented December 13, 1919  
CLARK'S STANDARD BUSHEL

### SEVEN OF THE ADVANTAGES OF USING THE VENTILATING PAD ATTACHED TO RUSHEL BASKET COVER AS TOLD US BY THE TRADE.

1. It allows ventilation, also refrigeration through the package. When fruit is packed in summer, it is full of heat; and if this heat is not allowed to escape from the package, the fruit becomes spoiled when placed in cold storage or refrigerator.
2. It saves labor of assembling, storage room, cartage, freight; prevents caps from blowing away in the orchard.
3. It keeps the cap right side up and it is not possible to put the cap upside down against the fruit, which marks it. When cap is not attached it has been proven the wrong side is placed against fruit.
4. Being attached to the cover, it keeps the cap in the proper place and prevents slipping to one side and off the fruit.
5. Produce dealers will tell you that even though they furnish caps for some of the growers, in the rush they are left off, and when the fruit arrives on market it is bruised and it takes probably 25 per cent off of each package.
6. Where packages are piled on top of one another it would prevent the crushing of the fruit against the caps.
7. Makes it easy to keep count of baskets and caps sold.

Write for prices and full information  
CLARK PAPER & MFG. CO.  
STEAK-O-HILL ROCHESTER, N. Y.  
Also Mfrs. of Clark's Fruit Containers, Snap-Bak Corrugated Paper caps, and Steak-O Powdered pads for labeling.

### Keep Your Garden

Free From Weeds

There's an easy way to get rid of them. It saves the moisture—Makes your vegetables GROW.

**BARKER** Weeder, Mulcher and Cultivator  
3 Garden Tools in 1

Kills the weeds and breaks the hardest crust into a level, porous, moist surface—grows all in one operation. Eight steel blades revolve against a stationary underground knife—like a lawn mower. "Best Weed Killer Ever Used."

Cuts runners. Aerates the soil. Works right up to plants. Has leaf guards, also shovels for deeper cultivation. A boy can run it—do more and better work than ten men with hoes. Five sizes. Inexpensive.

Write TODAY for free illustrated book and special Factory-to-User offer.

**BARKER MFG. CO.**  
Dept. 26  
DAVID CITY, NEB.



# APPLES

"TRAVEL BETTER" in

## NICE CLEAN Wooden Barrels



And then—

"STORE BETTER"  
in

## NICE CLEAN Wooden Barrels

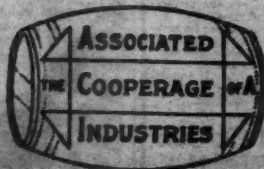
"YOU KNOW IT!"

It's good news, too, for growers that *Wooden Barrels* are again on a normal cost basis, and may be purchased on a competitive basis with other forms of containers. Ask us for wood bbl. facts. Address,

The "Slack" Division of

**THE ASSOCIATED COOPERAGE INDUSTRIES  
of AMERICA**

2005 Railway Exchange Building, St. Louis, Missouri



"THEY DELIVER  
THE GOODS  
IN GOOD SHAPE"

"THEY DELIVER  
THE GOODS  
IN GOOD SHAPE."



## Charles A. Green's Walks and Talks With Readers

### Birds Better Appreciated

FOR MILLIONS OF years birds have sung their morning and evening songs and built their nests about the homes of man almost entirely without appreciation of their valuable services as destroyers of insects. During the past 20 years a great change has taken place. Governments have set apart vast tracts of land as bird reservations. The last move has been a joint act between the United States and Canada protecting migrating fowls. A committee of ornithologists visited Colonel Roosevelt when he was president, telling him of a vast tract of land of no value to agriculture, which could be purchased for a trifling sum, asking what the president could do to forward this program. Colonel Roosevelt's reply was characteristic of the man. It was: "Gentlemen, there is no law that permits me to grant the purchase of this tract of land for a bird reservation, but I will see that such a law is passed. Meanwhile I authorize you to go ahead and give the birds the protection desired."

### Beauty Has Value

"I NOTICE that plants, vines and shrubs are going up," remarked a friend riding down town with me on the street car. "I can see a reason for other things advancing, such as clothing, groceries, farm products, etc., but why should plants, vines and trees be increased in price?"

I replied, "Wages have increased in the nurseries and nursery offices."

"Yes," replied my friend, "I realize that."

"Big nurseries used a carload of rope and burlap and sometimes many carloads and these have all increased in price," I remarked.

"It never occurred to me that the nurserymen needed such supplies," my friend replied.

Then I added, "The nurserymen must purchase band iron to re-enforce their boxes, and wired printed labels by the hundred thousand. They need many horses and must feed them on grain that has more than doubled in price. Nurserymen must erect expensive buildings in which to store nursery products. These buildings are short-lived. It has been said that nine years is as long as a nursery building can stand owing to the moisture from the trees and plants which causes the building to weaken and break."

"But the main reason for the advanced price of plants, trees and vines," I continued, "is that the main supplies throughout the past years for essential seedlings have come from France, but that now, since the Frenchmen were engaged in war they have not planted, and if the American nurserymen could secure even a small amount from France they would be happy even if the price was increased tenfold over what it was formerly. So you can see that there is more reason for the advance in nursery stock than there is on farm products, groceries, and the essentials of life."

"A near neighbor of mine has just moved into a new house. Naturally, he feels proud of it in that he has a furnace, electricity, gas, a bathtub, laundry tubs of stone and in the rear a nice automobile garage. But there is something lacking in this home of my neighbor. I am sure if you were but to look at it for a moment you could tell me what was needed. But you are not near me, therefore, I will tell you that there is not a plant, vine, shrub, or tree on this lot on which the new house is placed. If you could see a photograph of this home as it now is without any embellishments that the nurseryman can offer, and then again you could see a photo-

graph of this house and yard planted with ornamentals, shrubs, and vines you would say that it has almost doubled in value by planting even \$5 or \$10 worth of flowering shrubs and other nursery products."

### Work for Some Horses

I DO hope that no man who reads these lines will make the mistake of thinking that motors will displace all of the horses on the farm. It is true that instances have been recorded where the "horseless farm" is an actuality. One might remark that occasionally one finds an "automatic" restaurant. Just the same the average man would rather be waited on by a human waiter, and one gets along better on the farm if he has some horses to do a considerable part of the work. The greatest function of the motor truck and tractor, as the writer sees it, is to reduce the employment of man power, now getting unprofitably scarce, and to make speed when speed is essential. The horse is essential and will be for many years to come. The truck or tractor is a necessity only when its use will return a profit to its owner. My advice is to wake up and stop dreaming about motorizing the farms to the entire exclusion of Old Dobbin, and use motors only where they will pay their way and a profit besides. But for goodness sake, improve the kind of horses kept. A scrub, 1,000-pound horse on the farm is a liability rather than an asset, just as a "boarder" is a poor kind of cow to keep in the dairy.

If the motor truck and tractor will eventually eliminate the undersized, spindle-legged, narrow-chested horse and replace it with a big, husky, 1,400-pound animal, and let both work in conjunction with one another, agriculture in all of its branches will have reason to honor the memory of the men who thought out and improved the internal combustion engine and its family which has followed.

To my notion the day of the cheap horse and the high-priced hired man are drawing to a delightful sunset, through the coming of the motor truck, the farm tractor and improved livestock.

### Firming the Soil

DO YOU UNDERSTAND the necessity of making the earth firm around each plant or tree that you set out? This is a question of great importance. Every growing plant and tree is surrounded by firm earth if planted some years ago. If on planting you leave the earth loose around the roots, it is not in the natural condition and the plants or trees are liable to perish. The soil about strawberry and raspberry plants, etc., should be pressed very firmly with the feet, being careful not to press the germ or vital part of the plant.

In transplanting trees or grapevines, when the hole is about half filled it should be treaded down as firmly as though setting a fence post. Then after the earth fills the hole in which the tree stands the soil should again be pressed firmly. Then leave a little loose soil on top of the earth to prevent too rapid evaporation.

The oil is the most important constituent of the olive on account of its high food value and its use in the industries.



(Continued from page 5)

In fundamentals at least, there is not much difference in the production of citrus fruits and such fruits as apples, peaches or grapes. But the citrus grower in Florida has been especially favored by the Great Creator in having no such pests to contend with as does the apple or peach grower. There are no insects or fungi of citrus comparable in destructiveness to the codling moth of apples, apple scab, peach curculio and brown rot. Then too, the citrus grower has the faithful and splendid assistance of nature's own helpers, in the form of scale destroying fungi that aid in keeping at least one great group of insects fairly well controlled.

## The Labor Problem

I cannot help but believe that this very fact has deterred citrus growers from looking into the profit making side of spraying as well as they ought to, and from doing their spraying with the high degree of efficiency the operation merits. True enough, much of the spraying that is done, is performed by incompetent negro labor, and as one Florida grower tersely stated to me not long ago, "the Ethiopian skull must be taken into consideration."

It is not easy to overcome the matter of incompetent labor. All fruit growers suffer to a considerable extent from no-brains at the end of the spray rod. But this incompetency is reduced as the superintendence is improved. A good boss of the spraying gang can get a good job of spraying done regardless of the lack of intelligence on the part of his helpers. Better do the bossing yourself, and then you will know it is well done.

Florida citrus fruits deserve a better deal in spraying than it has had. Florida growers deserve a better profit than they have had. Both will come, and come just as surely as a new day, by the application of the right spray at the right time and in the right way.

Don't let the month of May pass without applying oil emulsion to your citrus trees, using oil emulsion containing one percent of oil, with two and one half pounds of soda sulphur to each 100 gallons. In June, follow with lime-sulphur. Do the spraying thoroughly, otherwise you are wasting your time and material. Strive to make your next crop a record breaker for profit making quality.

## SMALL FRUIT GROWING

**OWING** to the high prices of the various small fruits, such as raspberries, strawberries, blackberries and gooseberries, more attention has been given small fruit growing the last four or five years. Whereas orchard trees require years before coming into bearing, small fruits yield their best crops the third year after planting and a good fair crop the second year after planting. In old times there was often a glut of small fruits on the Rochester market, especially of the strawberry, and it was difficult to secure profitable prices. Now 25 cents a quart for raspberries and strawberries is about the average price, which leaves a large margin of profit. In old times gooseberries were but little grown and not much in demand in the market. Boston used to be the best market for gooseberries. Now the gooseberry has come into its own and there are scarcely enough grown to supply the demand.

The most uncertain of the small fruits as regards prices is the currant, which is up one year and down the next in price. Currants are an exceedingly profitable crop. The safer thing for the grower to do is to grow all the small fruits to a moderate extent and not specialize in favor of any one or two kinds.—C. A. G.

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**It is always ready and willing to carry the load; and the cost of its hauling is consistently low**

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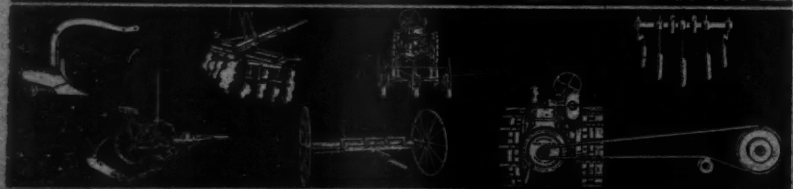
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## Tomatoes Always Popular

By J. T. Rosa, Missouri

THE home gardener is interested in growing the crops which give the greatest returns on a limited area, which are easiest and most satisfactory to grow, and which are most desired as fresh vegetables for the home table. One such vegetable is the tomato, the popularity of which is increasing every year.

Tomatoes are without doubt the most satisfactory of garden crops. They grow on all soils in all parts of the country, and are grown by even the greenest amateur gardener with a fair degree of success. For a good start with this crop, good, strong, stocky, well-rooted plants should be used. Money spent for this sort of plant is well invested. Our tests have shown the superiority of stocky potted plants over rather spindling hotbed grown plants, both in earliness and yield. If "leggy" plants must be used,

Mulching is most beneficial in the more southern sections or where the summers are likely to be hot and dry. There are many advantages derived from mulching tomatoes and similar crops, such as suppressing weeds and grass the latter part of the season, eliminating cultivation, adding plant food and humus to the soil and keeping both plants and fruit healthy and clean by keeping them off the ground. Of course, the primary idea in mulching tomatoes is to retain moisture, keeping the soil cool and moist through the season. This increases the yield and quality of the fruit quite markedly the latter half of the season.

### A Word About Fertilizers

Commercial fertilizers are highly beneficial to tomatoes, especially on the poorer soils. Recent tests made on the cannery tomato crop in Missouri show an increase in yield ranging from

## In Memoriam

On April 14th, Mr. J. E. Ford, our Director of Advertising, after an illness of three weeks, passed to his reward. His death brings to every one of his associates the bereavement that is felt in the loss of a true and loyal friend, for John Ford was a shining example of a rare type of man, one who loved his friends, performed his work and served his Maker with an intense and equal ardor.

His life work had been in the advertising field, and when he became associated with the AMERICAN FRUIT GROWER, he launched into the spirit of that business with all the enthusiasm

of his active and imaginative mind. To build up the fruit industry of the country into the great and substantial business that it should be, became his aim and ambition.

Much of the splendid accomplishment of the AMERICAN FRUIT GROWER during recent years, has been due to his untiring efforts. He was an energetic, constructive worker, a quick thinker and a staunch supporter of the most enlightened practices in fruit production. His passing is a distinct loss, not only to our own organization, but to the fruit growers of America.

the stem should be laid flat and covered with earth, turning up the top so that only three or four inches extends above the surface.

Often the gardener can buy a few dozen plants from a professional plant grower cheaper than he could grow them himself. Yet it is always more satisfactory for the gardener to grow his own plants, and it may be cheaper in the long run. Seed should be sown in a window box about March 1st, and when the third leaf is well developed, transplant the seedlings to a mild hotbed or to a coldframe, setting the plants four by four inches apart, so as to permit of their best development of root and stem. The plants should be transplanted to the garden about the time danger of frost is over. For two weeks before transplanting, the plants should be "hardened off" by removing the covers from the frames and withholding moisture so that the growth of the plants is checked, and they are made more resistant to cold, and to the hardship of transplanting. An early start means an early and better crop.

### Give Plenty of Room

The usual planting distance for tomatoes in the garden is three by four feet for early varieties and three by five feet for late varieties. When tomato plants are to be trained up to stakes, which is the best practice in the garden, plants should be set 18 inches by three feet apart. This economizes space, and staking the plants results in fruit of better quality, and easier to gather. However, staking and tying up the plants does not usually increase the earliness, or the yield per plant, very much.

Another practice which is decidedly beneficial to tomatoes is that of mulching the plants with five or six inches of straw or leaves. Grass clippings, cornstalks or strawy manure, can be used for the mulch if available.

25 per cent to over 500 per cent, when a complete fertilizer was applied at the rate of 250 pounds per acre, while we consider a rather light application.

The earliness of the crop was advanced from four to five weeks by the use of a complete fertilizer. Best results were secured by applying fertilizers in the row, and mixing with the soil a few days before the plants are set. Fertilizer results in a much more rapid growth and development in the early part of the season, so that the favorable growing weather the latter part of the summer is less injurious. This point is very important here in Missouri, where the summers are usually hot and dry.

We found in our fertilizer tests that rotted stable manure and poultry manure were excellent fertilizers for tomatoes, at least on soils that were only fairly rich. This corrects a common idea that animal manures are not good for the tomato crop. However, these manures did not increase the earliness of the crop as markedly as did commercial fertilizers. Judging from our experimental results as a whole, I would suggest using a fertilizer analyzing about four per cent nitrogen and 12 per cent phosphorus.

In many sections, tomatoes are subject to various leaf diseases—especially the septoria leaf spot which often defoliates the plants, the latter part of the season. Spraying the plants thoroughly with 4-4-50 Bordeaux mixture is the standard recommendation for controlling the leaf blight disease. Recently, the Maryland Experiment station reported success in controlling leaf blight on tomatoes by spraying with a mixture of one-half pound of copper sulphate and 50 gallons of water. They call this mixture the "cure." It is cheaper and easier to make than Bordeaux mixture, but we are not sure that it is efficient.

Tomato plants should be sprayed before they are removed.



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the hotbed. A few weeks after setting in the garden, the plants should be sprayed again, and this treatment should be repeated every two weeks. Experiments have shown that four or five sprayings with Bordeaux mixture pays with the tomato crop.

Where there is danger of cutworms attacking the plants just after they are set in the garden, the plants may be protected with a "collar" of stiff paper, folded and slipped around the stem, extending an inch or so below the surface of the soil and three or four inches above the surface. Cutworms are usually troublesome only for a short time in mid-spring, but they may be very annoying in destroying early-set plants.

#### Eggplants and Peppers

Two vegetables closely related to the tomato are eggplants and peppers. These are good gardener's crops, although somewhat more delicate and tender to cold than tomatoes. They also respond more to improved cultural conditions, and are more injured by bad conditions, than are tomatoes. The general methods of growing and setting plants, and handling the crop are the same as for tomatoes, except that these two crops should be transplanted to the garden a week or two later than tomatoes. Peppers of the large, sweet-fruited type such as "Chinese Giant" and "Ruby Giant" are excellent for salads, and for stuffing and for pickling. Eggplants are one of our much neglected vegetables, of the finest quality, when the fresh immature "eggs" are peeled, sliced and fried in egg batter.

#### KEEP IMPLEMENTS UNDER COVER

Much ink has been used in the printing of articles about the waste of farm implements by rusting because they have been left out in the weather for weeks and months at a time. But the waste continues, and probably will continue to a large extent until the end of time. Everywhere one goes, no matter what state or county, one is certain to see farm implements standing out in the weather in many barn lots or fields. Even expensive pieces of farm machinery such as tractors or spraying machines too frequently are left out in the weather without so much as a tarpaulin cover.

Wooden parts suffer quicker depreciation from weathering than do the metal parts, since wood will show many small cracks in a very short time. This weakens the wood fibers, and when the part is subjected to a strain, it gives away. Everyone knows that iron and steel rust quickly when not covered with oil or paint. A rusty working part works hard until the rust is worn away, and this harder work increases the strain on the engine or team.

#### Shed Pays for Itself

An implement shed, with all farm implements put under it just as soon as their service in the field is completed, will pay good interest on the cost of the building. As one good farmer has said: "I have for years had a good implement shed on my farm, and it has repaid its cost many times over. There is no reason why any farmer cannot have such a building. The house need not be an expensive one. A good roof is the chief requirement, with sufficient siding to keep out the rain and snow.

"I have found that it not only pays to put the implements under this shed just as soon as I am through with them in the field, but I find that it pays to keep them painted, particularly the wood parts, and such metal parts as do not require the use of oil.

All machinery that is subjected to hard use during the working season requires more or less repair at the end of the season. Especially is this true of the power sprayer. There is no other piece of machinery used in the orchard which should have more careful attention to its upkeep than the power sprayer. Because of the high price that now must be paid for a good power sprayer, it behooves the owner to exercise just a little more care than ever in its upkeep.

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And so every single part of a tractor must be inherently reliable and dependable. Each part must withstand the tremendous strain to which a tractor is put. A tractor never "coasts".

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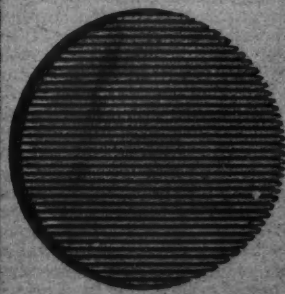
Timken Tapered Roller Bearings carry *all* loads no matter from what angle they are applied.

They know that when the inevitable wear that *must* follow motion does come Timkens do not have to be thrown away and replaced at considerable cost in time and money. A simple adjustment or take-up, easily and quickly made, makes a Timken Tapered Roller Bearing function as if it were new.

And they know that Timken Bearings will prolong the life of the tractor; will save time and money for the farmer; and consequently will aid in the development of More and Better Farming By Power.

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Timken Tapered Roller Bearings for Tractors, Farm Implements, Trucks, Passenger Cars, Machinery, Trailers, and Industrial Appliances  
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**A**SIDE from the important job of orchard cultivation, Case 10-18 and 15-27 H. P. Kerosene Tractors demonstrate their great value to fruit growers in other ways. On the job of spraying, for instance, if you have a big orchard to cover and you are rushed for time, one of these tractors will pull a big-capacity power sprayer steadily, without stop, regardless of how hot the weather may be.



In some localities orchardists also find their Case Tractors a great help in clearing land and preparing the ground for young trees. For the jobs of uprooting stumps and big boulders, pulling up old hedges, etc., the sturdy construction and ample reserve power of Case Tractors make them especially valuable.

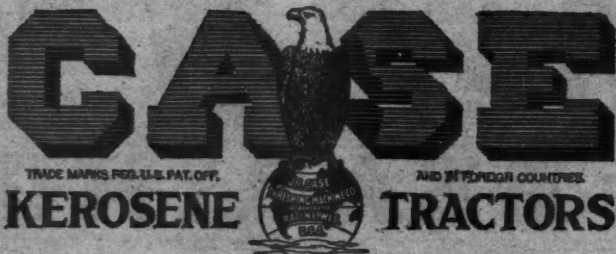
The four-cylinder, valve-in-head, kerosene-burning Case motor is mounted crosswise on a twist-proof frame, which permits the use of all cut-steel gears, enclosed and running in lubricant, for delivering the engine's power to the drive wheels. Because of this design and construction from 65 to 70% of the motor's power is available at the drawbar. The belt pulley being mounted directly on the crankshaft insures full power delivery on belt jobs such as operating large-capacity cider press, feed grinder, etc. The compact design of Case Kerosene Tractors and their flexibility of control enables operator to work close to trees when cultivating.



While you are considering the matter of applying tractor power to your orchard operations, write for our catalog descriptive of Case Kerosene Tractors, Grand Detour Orchard Plows and Disc Harrows.

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SPREADS 16 1/2 FEET



## DISEASES OF FRUITS & TREES

### Look Out for Twig Blight

**O**F THE MANY inquiries received about plant diseases, an unusually large number of them have been for the identification of the disease that cause apple, pear and quince leaves to die and turn brown during the summer. In practically all cases that have been brought to the attention of this office, the cause is none other than twig blight, or fire blight, as it is also called.

This is a bacterial disease, and cannot be controlled by spraying, at least not to any great degree. The most effective means of controlling this blight, as recommended by experiment stations, is to cut out the diseased twigs as soon as they are observed. This necessitates constant vigil during the summer months. But there is much of this cutting that can be done during the annual winter pruning season.

Twig blight overwinters in cankers. When doing the pruning in the dormant season, watch for cankered spots, or dead areas near dead twigs. Make the cuts at least several inches below the lowest indication of the disease, and then disinfect the wound and the pruning tool with a mixture of corrosive sublimate and mercuric cyanide, dissolved at the rate of one part of each chemical to 500 parts of water. Burn the brush. When the wounds have dried paint them with a good grade of paint.

#### CUT OUT THE CANKERS

Cankers are dead spots in the bark on twigs or branches in which various kinds of destructive fungi spend the winter. All kinds of tree fruits are affected by plant diseases which cause cankers in the bark. On the apple, some of the commoner canker producing fungi are blister canker, blotch, bitter rot, twig blight and black rot. On the peach and other stone fruits brown rot occurs to some extent in cankers.

When doing the annual winter pruning it is easy to see these dead, cankered areas, as they are easily distinguished by their rough, blackened, unhealthy appearance. Cut them out and burn them. This may be most easily done in the case of relatively small branches and twigs, by the removal of the entire branch. But where the canker occurs on a large limb, as it does in many instances, to remove the limb may make too big a hole in the tree, and destroy too much of the fruit-bearing surface. In such cases it may be possible to dispose of much of the diseased bark by shaving it off with a draw knife, chisel or some such tool. This will remove the bark in which much of the living fungus tissue is found, and particularly that part of it which will give rise to spores from which the disease is spread. Aside from this, such removal of the bark has no great value, and will not necessarily result in a healing of the wound.

Most of these cankered areas get their start in a wound. On that account, they are sometimes called "wound fungi." Where the bark is broken, as in the case of an unpainted wound where a branch has been cut off, or where a careless picker's shoes have broken the bark, the wood dries out and cracks. Fungous spores get into these cracks and start their work. Because many of these fungi get their start in wounds, it is self-evident that they can be prevented by either not making wounds in the bark, or else by keeping the wound painted. A good grade of paint, applied to the surface of a newly-made wound is cheap insurance against the spread of canker-producing fungi. Thin grafting wax or some of the commercial wound dressings are all valuable, and should be a part of the equipment of every pruning gang, along with the bichloride-cyanide disinfectant. The use of these in the proper ways will greatly aid in lessening the toll

of fungous diseases in the bearing surface of fruit trees, as well as on the fruit itself.

#### RASPBERRY ANTHRACNOSE

A subscriber from Kansas sends in a black raspberry cane on which are many grayish-white spots caused by disease, and wants to know what causes the trouble and what can be done for it. He says that a very considerable portion of his black raspberry plantation is affected, both the new and old canes, and that the yield of berries is reduced to many of the canes die before fruit ripens.

This disease is the common anthracnose of the raspberry although it also attacks blackberries. It is the most troublesome and destructive fungous disease of raspberries in the central states, and in some seasons it causes a very heavy loss, as the canes sometimes are girdled by the diseased spots, and are killed. This disease has never received the serious attention from growers that it should have, because there is usually about the same amount of it from year to year, with the same amount of loss, so that its actual destructiveness is not very noticeable.

While no part of the raspberry plant above ground is immune to anthracnose, the disease is most prevalent on the canes, and is commonly considered as a cane disease. It occurs most extensively on the lower portion of the canes, particularly on the young growth. On canes in fruit, the disease spots will be found on the upper ends of the canes as well. Sometimes the canes will be so badly diseased they will split, and the diseased areas take on a canker-like appearance.

Anthracnose is caused by a fungus. It spends the winter in the spots on the canes, from which spores are produced shortly after growth begins in the spring. These spores spread the disease to all of the young growth, including the new canes that may be only six inches long. The production of spores undoubtedly continues over a considerable portion of the summer, as new canes often are found that are spotted almost to their tips.

Because of the nature of the disease, it would seem that by cutting out the diseased canes it would be possible to reduce the amount of the disease. But such is not the case. It can't all be cut out except by mowing all canes down to the ground, and then there is no fruiting wood left. Spraying with bordeaux mixture has been tried and tried but without much satisfaction. The disease, however, can be very well controlled by spraying, if the right material is used in the right way and at the right time.

The Michigan experiment station has found that lime-sulphur will do the work. Three applications are required. The first should be made in spring before the leaves appear; the second should be applied when the new shoots are about six inches long, and the third application put on just before the blossoms appear. For the first application dilute the lime-sulphur solution at the rate of 2 1/2 gallons in 50 of water; for both of the later applications use 1 1/4 gallons of lime-sulphur to 50 gallons of water. Make all applications thoroughly, so as to wet all portions of all canes.

#### SEND IN YOUR SPECIMENS

If there is any disease on your fruit that you want to know about, send us a specimen of it and let us identify it for you and suggest means for its control. Usually it is better to send in a specimen of the disease along with a letter telling about it and the extent of the damage. A correct identification then is possible and correct means can be indicated for its control. There is no charge for the service.



## The Fruit Stand By the Road

By R. J. McFall, Massachusetts

THE roadside stand has made for itself a very important place in the marketing of the farm products of many parts of Massachusetts. Time alone will tell with certainty what will be the future of these ventures, but there seems now to be nothing standing in the way of their increased success, provided they are properly managed.

The cause of the growth of the roadside markets is, of course, the oft talked of desire to market farm products direct from farm to table without paying the large tolls of the middlemen. There have been many other schemes tried to get the same results, but not all of them have had the same success. There is good reason for the success of this venture; it uses the joy riding of the automobilist to save the time and trouble of others making special trips with motor trucks to market the goods, or the cost of rail shipment and expensive city delivery. This is just so much clear saving to the country.

It naturally will succeed unless the farmers try to take for themselves the whole benefit of this saving and make the autoists tired of being the victims of overcharging. The farmer should remember that the city man is just as tired of high prices as he himself is of his large expenses, and the main reason the autoists stop to buy is to save their money. By catering to this economical turn of mind the farmer can often build up a good business. After all, the main part of the saving in this method of marketing is due to the part the city man plays. The farmer who recognizes this and splits the difference between wholesale and retail price is the man who is going to make the most money.

### Where to Locate

There are many things besides price that help to make a successful stand. A good location is essential. There is no use in trying to run a roadside market along a lonely road where few autos run. A good state road where the autos are thick is the only satisfactory location. It also must be placed where an auto can stop conveniently. Part way up a long hill would be about as good a place as a mile away from the road. At the foot of a hill where the cars are speeding up to climb the hill would also be a poor spot. The top of a hill is about as satisfactory a location as possible. At the outside of a not too narrow curve where the stand can be seen and where the cars must run slowly, is also a good general location. These points should be taken into special consideration when the farm itself is not situated on the main road and, consequently, the stand cannot be located at the farm.

A good variety of products for sale is a great asset. One article may attract one person to stop, another article may attract another person. Once they have stopped a good salesman can induce patrons to buy products for which they never would have stopped.

Advertising of one kind or another is also worth while. This need not be advertising in the papers. It may only be the placing of attractive and prominent signs far enough along the road to induce the autoists to slow down. A sign right at the stand may help, but the driver cannot stop immediately when he sees the sign, and, consequently, the signs should be placed some distance away.

Probably the most important matter of all is to convince the passer-by on first glance that this is a real chance to buy right from the farm itself. An old kitchen table in front of an unmistakable farm house will make a better stand than a fancy stand far from any appearance of a real farm. The city man does not need to go to the country to buy from a fancy store. He wants something different, he wants to buy from the original producer.



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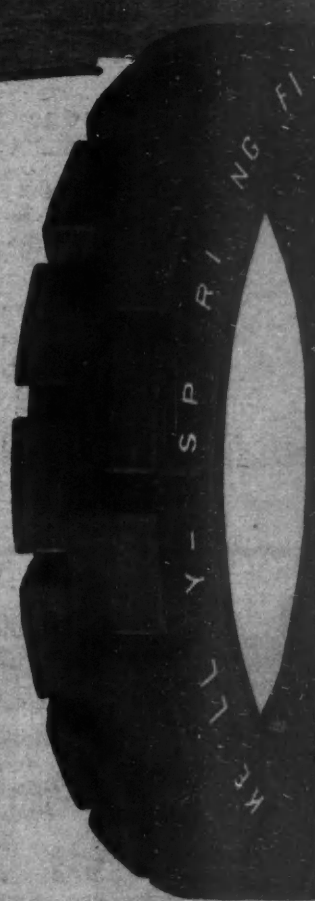
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# Tractors Trucks and Engines



## What Makes Motor Smoke

By Frynk A. Goodwin, Department Editor

**F**ORTY PER CENT of the inquiries which come to the writer through the editorial department of the AMERICAN FRUIT GROWER, have to do with fuel combustion troubles and their attributes. "What makes my motor smoke?" seems to be the plaint of many of our readers who are interested in tractor, truck and motor car operation, and in the use of stationary and portable engines.

It's a difficult matter to inform every reader just what makes his engine emit heavy smoke from its exhaust. There are so many reasons which might be applied to each individual case that my best advice would be to consult an expert mechanic, and let him study the cause.

One engine may smoke because of poor mixture, and another may have its cylinders scored. A third, perhaps, has piston rings which do not fit, and a fourth is using a poor grade of fuel. Lack of compression troubles another and too high compression is the difficulty in the sixth. And so it goes.

A writer hundreds of miles away, with no opportunity to make a critical examination of the troublesome motor, can only guess at the cause of the trouble complained of. And in most cases it is an impossibility to diagnose a "sick" motor, due to any of these

troubles, and proved by excessive smoking. It is like trying to doctor by mail an invalid whose trouble seems to be a run-down condition. While I am willing to give every assistance possible, I would advise taking such cases to the nearest home engine "doctor," where quick and certain relief can be afforded.

### Self Starter for Tractor

J. W. B. Michigan asks:—Would it be practical to install a self-starter to be operated by storage battery and generator on a 14-28 farm tractor? The tractor is hard to crank by hand, requiring two men to turn it over when it is cold.

**A** SELF-STARTER can be attached to the tractor. But whether it would be practical, is another matter. At the outset it would cost several hundred dollars, because the starter would have to be constructed especially for this tractor. A new flywheel would have to be made, with gears around the rim. Then a pinion gear to mesh into this would have to be cut, and this would be placed on the spindle of the starter. A platform must be especially built and bolted to the frame in such position that when the switch is closed the pinion gear will mesh with the gears of the flywheel. Then a generator would have to be installed, so that the tractor would charge the battery to replace the energy lost in starting. And finally a battery would have to be purchased, of sufficient power to spin the motor until the spark sets it in motion. All of these would run up into big money, and then it might be far from satisfactory. To my mind it would be cheaper to "grin and bear it," even though the starting is hard labor.

### Test for Compression Leak

C. C. M., New York, wants to know how to test a motor for loss of compression due to a leak which he cannot detect.

**I**T MAY be that the leak is around one of the spark plugs, and then it might be due to an imperfect fitting motor head gasket. To determine which of these is causing the trouble start the motor up and when it has warmed up a little squirt some lubricating oil around each of the spark plugs. If these leak, bubbles will form under the oil, and if the leak is of considerable size the oil will be blown away. The leak can be stopped by painting the threads of the plug with red lead, or perhaps a new spark plug gasket will serve the purpose.

If the motor gasket leaks it can be determined by painting the joints where the engine block and head join, with very heavy transmission oil. Any leak in the gasket will be quickly detected. The slightest crack in a gasket, if not stopped with shellac, will leak under the high compression of the motor.

### Summer Difficulties

W. W. B. Illinois, bought a new farm tractor last winter, and writes to ask difficulties he will likely meet with in operating it during the summer months.

**J**UST what W. W. B. desires me to tell him is rather difficult to tell from this abbreviated question. Probably the greatest foe to a farm tractor in hot, dry weather is dust. If the bearings are not dust tight; gears running



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The Grading Belt shown above is the "roller" type with canvas distributing system.

When operated it keeps a constant supply of fruit passing before the graders, at uniform speed, without crowding. Fruit is automatically rotated exposing entire surface to the eyes of graders. Simplifies and lessens the work of grading.

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B. C. SKINNER, Manager

Peachtree Avenue  
DUNEDIN, FLORIDA



in oil, and the air which enters the carburetor through the manifold is "washed" by being forced through water, the life of a tractor is shortened. The gritty dust of any farm will cause undue wear in all moving parts unless they are protected against dust, as indicated.

The lubricants should be drained out and parts washed with kerosene at least once a week to remove the grit which is certain to accumulate. Heavier oil should be used in summer than in winter. Carbon should be removed and its accumulation prevented so far as possible, in order that overheating of the motor is guarded against. Keep the tractor under cover when not in use to prevent rust. If the tractor is laid up for a number of days from any cause, cover the polished parts with a coating of lubricating oil so that they will not rust. Remove the oil before putting the tractor in use again, so that dust and grit will not accumulate. Does this answer your question, W. W. B.? If not, write again, making your questions more explicit.

### Engine Won't Run

Two subscribers (one from Minnesota and another from Pennsylvania), ask practically the same questions. Both have a stationary gasoline engine which will not run, and both want to know how to make it go.

IT IS A well known axiom of motor operation that any engine given a proper supply of fuel, which enters the combustion chamber in right proportions, and fired with a sufficiently fat spark within the combustion chamber, will run. So there are three things to be certain of at the outset: Is the fuel flowing freely? There may be a stoppage in the gas pipe from tank to carburetor. Or the carburetor may be clogged to prevent either the entrance of the raw gasoline to the mixing chamber; or there may not be sufficient air entering the carburetor to make the mixture. Possibly the mixture does not enter the combustion chamber due to clogging with carbon.

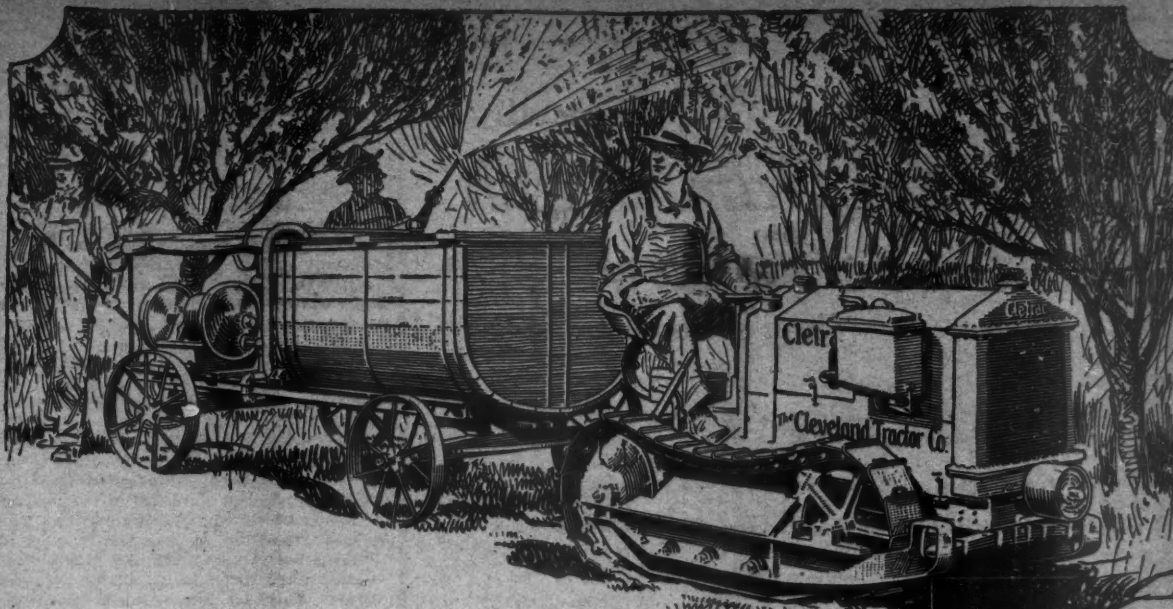
If none of these causes apply, find out if the spark is sufficient to explode the charge, in the cylinder head. Sometimes there is a fat spark outside the motor and not enough inside to explode the charge. Be sure that the spark is sufficiently advanced to explode just as the piston starts down, and does not hit right on top or before the piston is beginning its downward movement. See that it is properly timed.

### Your Garden Tractor

Now that I have answered many inquiries with patience, both through the columns of the AMERICAN FRUIT GROWER, and by mail, turn about is fair play. Let us ask the readers of the AMERICAN FRUIT GROWER if they have had experience with the various makes of garden tractor cultivators? If so, what has been the difficulties, if any?

This is a line of farm motors which have not been intensely studied by mechanics and experts, and there are many possible problems regarding their use which ought to be taken into account. There are probably a good many readers who have or are using garden tractors. Will such please write, giving name of tractor, age, approximately how many days in use, and the difficulties, if any, which have been experienced. If sufficient information is received through such letters to make it possible, the writer will collate it, and prepare an article for later use which will be of inestimable value to those who are interested in the use of garden tractors. All information so obtained will be held in strictest confidence, and only the general deductions will be made known. Will you help us?

Meanwhile let your inquiries come in. It is a pleasure to the author to give such information and assistance as is possible. Questions which can be answered through these columns to the benefit of all users of motors, are preferred.



## Cletrac Hauls the Heavy Spray Rig

—doesn't jerk when it starts up

CLETRAC gets under way smoothly and easily. There's no jerking the heavy spray rig in starting up. It pulls the sprayer through the orchard at a smooth, steady speed that doesn't sloop or splash the mixture and the spray hits every tree alike.

Two broad tank-type tracks keep Cletrac from packing or sinking into soft cultivated land. They give the tractor a firm grip, always delivers the full-rated drawbar pull.

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Cletrac's working parts keep "clean as a whistle" through the dirtiest work. All the running gear is under cover and none of the spray mixture can suck through the water type air-strainer into the motor. With its compactness, clean, smooth sides and quick turn ability, Cletrac makes the ideal orchard tractor.

See the Cletrac dealer near you and write us for a copy of that interesting booklet, "Selecting Your Tractor."



#### SPECIFICATIONS

Horsepower: 12 at drawbar, 20 at belt-pulley.  
Length: 96 inches.  
Width: 50 inches.  
Height: 52 inches.  
Weight: 1400 pounds.  
Turning Circle: 20 feet.  
Traction Surface: About 800 square inches.  
Center to Center of Tracks: 38 inches.  
Belt Pulley: Diameter 8 inches, face 6 inches.

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Grasselli Grade Insecticides and Fungicides are a risk-proof investment. Backed by 82 years of dominant reputation for unquestioned quality, for uniformity to formula and for scientific accuracy of preparation, the Grasselli label is your protection against disappointment at harvest time.

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Lime Sulphur Solution  
Derris Root  
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See that this label is on the spray material **you** order. At conveniently-located dealers in every fruit and farming community.

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**YIELD**, size, flavor, and shipping quality of fruits are dependent on the kind and amount of plant food available to the crop.

With the right kind of fertilization riper fruits can be harvested and shipped, and still reach the consumer in satisfactory condition.

The improved flavor, odor, and appearance of such fruits help sales in wholesale and retail markets.

The fertilizer for fruit should be well balanced, and contain from 7 to 10 per cent. of Potash.

SOIL & CROP SERVICE, POTASH SYNDICATE

H. A. HUSTON, Manager

42 Broadway

New York

## POTASH PAYS

## Persimmons for the Home Orchard

Mention the word "persimmon" and the average person remembers the time he was the victim of a practical joke. Or perhaps, to one well acquainted with the fruit, it recalls the discovery of occasional persimmon trees which after a few frosts yield fruit of good size and a pleasant flavor, trees to which he returned each fall in the hope of obtaining more of their crop. Thus it is that a few have come to prize the native persimmon though, for the most part, it is regarded as a next-to-valueless natural product, a deceptive combination of two-thirds pucker and one-third seeds, like the haw or the acorn or the pawpaw. Very few, indeed, even among fruit growers and fruit lovers, realize that there have been discovered, named, propagated and introduced superior varieties of the native persimmon—as far superior to the average roadside or pasture tree as a Jonathan or Delicious apple is superior to the crab that springs up in a fence corner. Foremost among these improved varieties may be mentioned the Early Golden.

This variety was brought to notice a number of years ago by E. A. Riehl of Illinois. Shortly after its introduction to the trade, clones were obtained and grafted upon a seedling tree growing upon the grounds of the horticultural department of the Missouri College of Agriculture at Columbia. This has been fruiting heavily for a number of years. Its fruits are large, from an inch to an inch and a half in diameter, firm and meaty, and of a beautiful, reddish orange color. Their skins are thick and consequently the fruit does not bruise easily. The seeds are small and few in number, averaging not more than three to the fruit. The flavor is sweet and aromatic, the quality excellent. Furthermore, one does not need to wait until frosts come for this fruit to become edible. They mature over a period of three or four weeks during September and early October and usually are gone before the first fall frosts. Coming, as they do, after most varieties of grapes, peaches and plums are past season, and when the home orchard is apt to be yielding only early fall apples and Garber and Keiffer pears, they make a very welcome addition to the family's fruit supply.

If people generally knew how delicious they are, actually comparing favorably with the best of ripe figs, dates and fancy Red Jamaica bananas, there would be few farms or suburban households without at least a tree or two. The grafted trees can be obtained from nurserymen like trees of any other fruit variety; or, for quicker results, clones can be obtained and seedling trees growing in the yard along a fence or in a nearby pasture lot can be grafted over.

## POSSIBILITIES IN BLUEBERRIES

F. V. Coville, U. S. Dept. Agr.

The great promise of blueberry growing, as an agricultural industry, is indicated by the yields from the oldest of the hybrid plantings at Whitesbog, N. J. This planting consists of about a third of an acre, the plants seven years old in 1919. The yields, prices, and receipts on an acre basis are as follows:

Year	Yield per A. (bu.)	Approx. price per qt. (cents)	Value of crop per A.
1915	6.6	18	\$ 37
1916	29.7	22	209
1917	58.3	24	448
1918	46.9*	30	449
1919	95.8	32	966

\*Late frost.

Of particular significance is the fact that blueberries will thrive best on peat and sand soils, so acid as to be considered worthless for ordinary agriculture. Thus through blueberry culture it is possible to utilize many tracts which have been regarded as especially hard and unpromising.

Directions for the culture of the blueberry are given in Department of Agriculture Bulletin No. 334, published in 1916. A new edition of this bulletin is now in preparation and is expected to be issued within a few months.

## American Fruit Grower

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Your own car can be dressed and refinished in a few days ready for use—from the top to the tires—and when you overhaul the motor you need Gasket Sealant for tight gaskets.

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**Leather Top Dressing.** A black oil dressing that restores and softens leather and imitates leather tops.

**Dyeing Dye.** Dyes stained and faded things a black uniform color.

**Cushion Dressing.** Brightens and restores leather and imitation leather upholstery.

**Ford Top Dressing.** Brightens, preserves and restores Ford top material.

**Lamp Enamels.** (Glass and Enamel)

Rich air drying enamel, cover solid with one coat.

**Cylinder Enamels.** (Black and Gray)

Fine air drying glass, heat, grease and gasoline resisting enamel.

**Black Japan.** (Extra Fine)

A fine air drying glass enamel for all round use.

**Fender Japan.** (Jet Black)

A heavy bodied, rich gloss, air drying enamel the body and fenders.

**Liquid Wax.** A hard drying wax polish in liquid form. Easy to apply and polish.

**Auto Body Polish.** An oil polish to brighten and restore varnished surfaces.

**Microd.** A clear varnish for owner's use where the finish has been lost.

**Battery Box Black.** An acid resisting enamel for wood and metal.

**Rim Paint.** A protective coating. Keeps rims from rusting and allows tire to be removed with ease.

**Touch-Up Black.** A quick air drying glass enamel for all round use.

**Gasket Sealant.** Goes in fast quickly. Makes a perfect seal on all kinds of gaskets. Very Heavy Duty.

**Carburetor Cleanser.** A liquid that removes carbon and gives the motor more power.

**Color Finishing.** Air drying enamel for owners to paint their own.

Dry over night. In the 8 colors: Straw, Yellow, Gray, Red, Blue, Green, Black and White.

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Ideal for Fruits, Vegetables, Flowers

6% Ammo, 5% B.P.L., 1% Pot.

Order Now. Immediate Delivery

## Poultry Feed Co.

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## Dealing Directly with Retailer

By Charles C. Hutchins, New York

Dairying on a small farm has never been any too profitable in the east. Several years ago, having met financial reverses in the loss of livestock and horses, and hardly able to get one horse-note paid before I would lose another, and with grain bills piling up, things began to look pretty blue.

I made a visit to my friend, L. J. Farmer, who had been in the small fruit and nursery business for over 20 years. I had a talk with him about combining small fruit culture with dairying. We had a good visit as we walked over his plantation and he gave me some good counsel on the subject as to methods and varieties to start with.

The following spring I started in with 1,000 Aroma strawberry plants, and some Plum Farmer black caps, Royal Purple raspberries and Snyder blackberries. Each year I have increased my plantings of strawberries and cane berries until now I have the small fruit line on a substantial and profitable basis.

As to marketing my berries, at first I shipped to commission men in New York and nearby cities, with very unsatisfactory results. I would get a small check covering the sale of my fruit from which the express and commission charges had been deducted, and with the threadbare explanation "arrived in poor condition."

That was discouraging after sorting and packing the berries in an attractive manner, and heaping up the baskets until the follower ribs would crush a few berries on the edges of the baskets. This does no harm, as a full, tightly packed basket will not move in the crate and make a mess of the whole quart in the rough handling they receive from the express companies.

The next season, before berry picking time arrived, I got on the cars and went to a northern city out of the strawberry belt. After interviewing several merchants, I succeeded in inducing three of them to try a few crates of my berries direct from my farm, on a 10 per cent profit basis instead of buying their berries from the commission man and jobber. I guaranteed the goods, and gave them my phone number and the privilege of stopping my shipment by communicating with me by phone at my expense.

Well, the phone rang several times, but for more berries. This arrangement has been entirely satisfactory to me and to the dealer, and has cut out one middleman and one handling of the perishable goods. I have since picked up customers through friends until I have quite a good trade direct to the consumer.

## PLAN INTRODUCTION GARDENS

The steady stream of new plant immigrants which for 22 years has been pouring into the country through the office of foreign seed and plant introduction has to be taken care of at special field stations where the climatic conditions are suited to the new plants. Those from warm climates must be grown in the south or in California. Those from the northern regions have to be cared for in the cool climates of the north and northwest. Seven of these stations have been established, in which the new plants are grown and propagated and from which are sent out each year thousands of their progeny to the state experiment station workers and to the professional and amateur plant growers of the country who are equipped to experiment with them.

These plant immigrant gardens have become places where plant breeders go to hybridize the wild relatives of our cultivated plants with those established varieties which it is desirable to improve in hardiness or earliness or productiveness or other qualities. To them travel each year a larger and larger number of nursery-

## A Time Saver on the Farm

**I**NTERNATIONAL Motor Trucks are big time savers on the farm.

One farmer living ten miles from town makes the round trip with an International in less than three hours. It used to take a whole day with horse.

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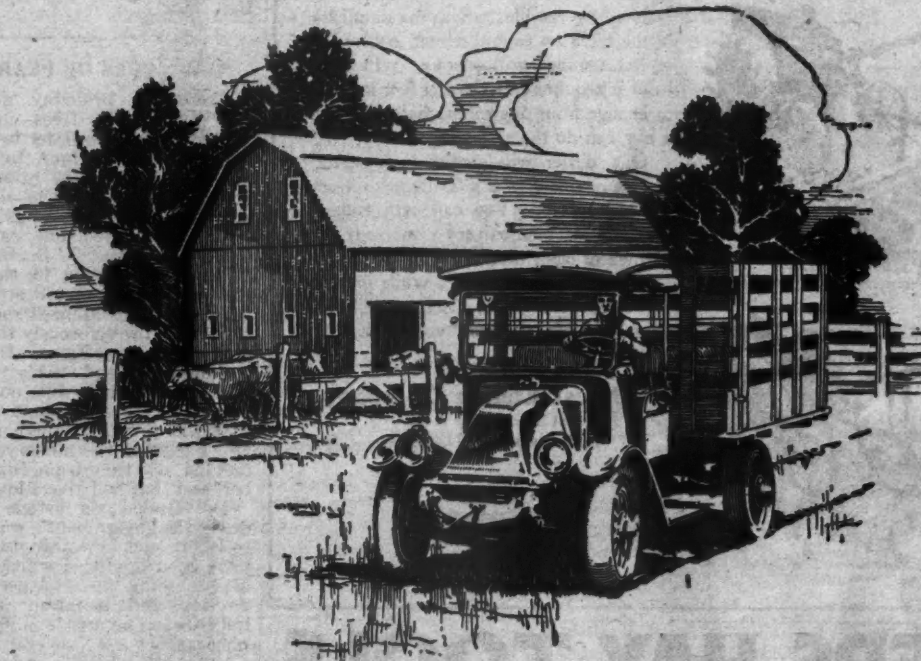
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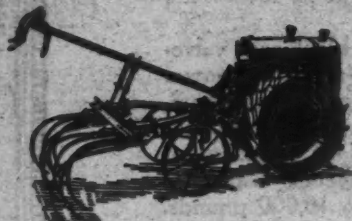
At the price, we know of no other machine that will equal the work of the NEW Model Utilitor. The machine handles easily, and in any soil where traction is assured it will do a clean cut job in less time than horse equipment.

Note by the illustrations the simplicity of the hitch on each different cultivating tool this utility will operate. In most cases it requires only three or four minutes to change from one to another, and even a boy can do the changing.

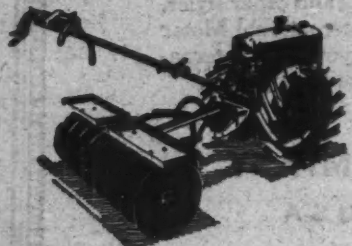
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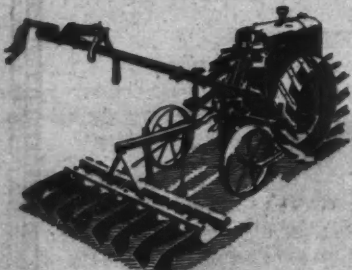
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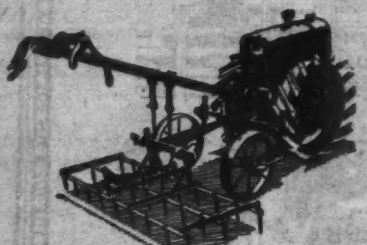
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men who are looking for new stocks on which to bud the established varieties of fruit and ornamental trees. They are not botanic gardens but represent collections of plants which have been selected because of their usefulness to the American farmer and fruit grower and the ornamental horticulturist.

It is at these gardens that the visitor can see what the food plants of other countries look like and learn that other peoples have foods which, while different from our own, are quite as good and possess certain economic advantages over those which we grow. Japanese persimmons, Chinese jujubes, Syrian pistaches, Chinese melting pears, dry-land almonds, Chinese cherries, East Indian mangos, Guatemalan avocados, Mexican sapotes, tropical papayas, Japanese bamboos, collections of hundreds of strains of alfalfas, hundreds of varieties of wheats, barleys, sorghums, corns, Chinese cabbage, southern root crops like the dasheen of Trinidad and the Venezuelan arracachas, Chinese raspberries and the yang taw, a new Chinese fruiting vine, are a few of the hundreds of interesting new plant immigrants which are growing at these plant immigrant gardens.

The location of these gardens should be known to the residents of the states in which they are located, Chico, Cal.; Miami, Fla.; Savannah, Ga.; Bellingham, Wash.; "Yarrow" (near Rockville), Md.; Brooksville, Fla.; and a special Detention Field Station at Bell, Md.

### NEW TYPES OF PEAR STOCKS

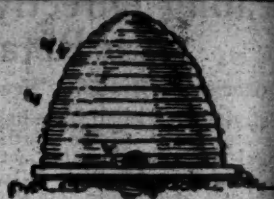
There are probably not far from 25,000,000 pear trees in the whole United States. In order to maintain the present acreage, four to five million young trees must be raised each year, and fully 90 per cent of all trees grown are from French seedlings.

What is needed now, says Dr. B. T. Galloway of the U. S. Department of Agriculture, writing in the Journal of Heredity, is to secure stocks grown in America from stabilized species, "stocks that will grow vigorously throughout our pear-growing sections, that may be economically and easily produced by nurserymen, that will not leaf-blight, that are highly resistant to fire-blight, that will produce a high percentage of No. 1 trees in the nursery, that may be budded any time from June to September, and that will give a long-lived tree."

Dr. Galloway's article describes in detail the government's work being done to secure such new pear stocks, and some have been produced which give promise of providing what America needs to develop and maintain its own pear industry. The article is illustrated with photographs of several varieties of Chinese pear stocks grown from seeds gathered by agricultural explorers in the interior of China showing those which are best adapted to American conditions and those which are not.

The abundant use of photographs with this article is typical of all the articles in the Journal of Heredity describing the most improved types of plants and animals. The American Genetic Association which publishes the Journal for the benefit of its members, is a co-operative organization of plant and animal breeders, and other persons the world over who are interested in the betterment of living things.

If a new hybrid fruit, plant, or flower is developed, or improved types of apples, grapefruit, raspberries, corn or wheat produced, or new methods of breeding for higher milk production be discovered, the Journal aims to present these new findings by the use of the best accounts and photographs to be obtained. These discussions for the promotion of better plants and animals, coupled with the articles on human welfare make this Journal an indispensable possession of every person interested in the improvement of the world of living things. Readers of the AMERICAN FRUIT GROWER are eligible to membership in the American Genetic Association, and any one desiring to join so as to receive the Journal of Heredity may do so by sending \$3 for membership to the American Genetic Association, 11th St. Station, Washington, D. C.



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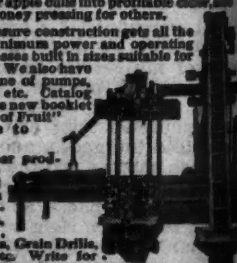
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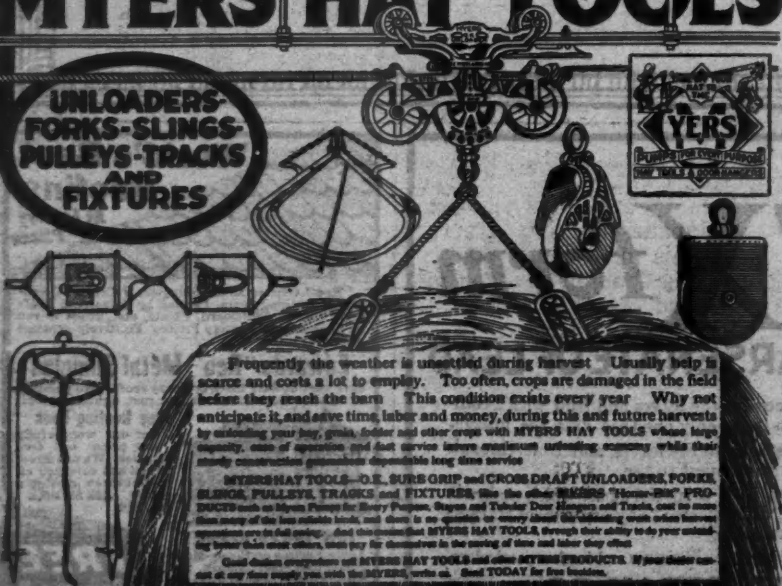
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# The Orchard Home

A Section for Orchard Women and the Children

Edited by Mary Lee Adams

## Community and Church

THE only kind of criticism worth making is constructive, of a nature calculated to overcome the faults and weaknesses of the person, thing or system criticised. How often good people deplore the weakness of the community church and yet do not ask themselves if they are doing their full share to strengthen it.

Just because its aims and aspirations are lifted far above the sordid world of money, it is often forgotten that a church, like any other business, cannot thrive without fairly adequate means. Many pride themselves on regular church attendance and let their Christian duty go at that. Regular church attendance gives personal encouragement and inspiration to the pastor, but if each church member contributed nothing but his presence, the collection plate would go empty.

What number subscribe to a church paper? In one middle west state, where the rural population is very prosperous, it was found on investigation that a mail carrier who distributed nearly 4,000 papers, delivered only 20 of a religious nature. In many states similar conditions probably prevail.

Those who are not interested in the up-building of a strong community church, may logically refrain from giving it substantial aid but, putting it on lower than spiritual grounds, they are unwise to ignore the church's influence. A group of railroad men, having established several lines that formed a junction, started at that point a town which was designed as a purely industrial center. They called the place Liberty and made no provision for a church. It soon became apparent that something was wrong with Liberty; it was tending to license, and its tone became constantly more undesirable. Families would not remain there and it languished commercially. Finally, after thoughtful deliberation, the founders built a church and engaged a minister. Their difficulty was solved for Liberty began to prosper.

## Fall in Line

INSTEAD of feeling proud to say that what was good enough for a former generation is good enough for this one, the individual should be constantly striving for better things. Not necessarily more costly things, though some of these are well worth while. The main value of effort is not always in achievement but in the quickening of the spirit.

To be someone rather than merely something, requires a mind that is not allowed to stagnate—an open mind that holds to the good it has but reaches out ever after something beyond. A theory, a thought, a thing is never desirable simply because it is new,

nor worthy because it is old. With old and new one must test, reject, accept as honest thought dictates.

"To think is to differ, where all think alike no one thinks very much." One fearless and forward-looking woman in a neighborhood is a dynamic force that can move the entire inert mass. She will be criticised, but if she leaven her so-called lump of eccentricity with kindness and tact, she becomes a power that will push her community to the front while the places where "all think alike" linger far in the rear.

Life is not meant to be wedged into a rigid groove, but demands for its perfect expansion the greatest variety of contacts. No human existence is more limited than that of the snob who thinks few associations are fitting for him. Tight little social circles shut out the free reviving air that blows over the great world, and those who dwell within their narrow round go from birth to death with no conception of the endlessly varied interests, the bigness and splendor of their surroundings. They are never more than half alive and tend to become as mechanical as the social forms that govern them.

## Moving Pictures for Schools

SEEING is believing, and it is this conviction that has made many educators urge the establishment of moving picture outfits in schools as an aid to realization and memory. Prof. W. F. Russell, dean of the college of education of the University of Iowa, says that the Japanese have been more ready than the school authorities of the United States to accept visual equipment for the teaching of school children.

This is what we might expect for the Japanese, being fairly recent converts to modernism, are as eager as the usual proselyte to adopt every aspect of the new cult. Moreover such a system appeals to them because through the centuries they have cultivated the retentive memory of things seen. It is said that a Japanese artist works, not in the room with his model but adjacent to it. He takes a long thoughtful look, goes back to his easel and sets down the impression gained, then to the model again for fresh information and inspiration. His picture gains in characteristic interpretation what it may lose in photographic faithfulness of reproduction.

But the United States is making progress. "We have moving charts which show graphically the progress of history and the beginning of racial groups and settlement of communities and great wars." In Washington, D. C., the National Visual Education Association is working to secure through Congress "Appropriations, suitable laws and regulations" by which the government shall pay one-half of all necessary expenses for

supplying and installing picture machines, films and books of instruction in the 17,000 grade and high-school buildings of the United States, wherever the state, district or county will provide for the other half of the expense.

This, at present costs, would make an average expense of between \$1,400 and \$1,500 per school, such buildings and apparatus to be held free for all social, civic, industrial and other such organizations, when not in use by the schools. A big field of usefulness and entertainment would be opened. If Congress endorses the project, it may not be many years before the school lacking such equipment will be considered quite behind the times.

## Preserve Eggs Now

NEXT winter eggs will be scarce. Store them now against the season of high prices. There are several methods in general use and all in some degree accomplish the object which is to "surround the egg with some material that will fill up the pores in the shells and keep the normal liquids which are within the shells, from evaporation."

The best known method of preserving eggs is by the use of sodium silicate or water glass. This should be used in a ten per cent solution—one part of water glass to nine parts of boiled water which has been cooled. A stone or earthenware crock, with cover, is the proper container for the eggs, which should be packed in layers with the small end down. A four-gallon crock will contain about ten dozen.

If you have not enough eggs to fill the crock at once, they may be added from time to time. Care should be taken at all times to keep the liquid two inches above the top of the eggs. Best make up the solution as it is needed for it is more convenient to keep the water glass in its original container than to keep the mixture with nine parts of boiled water. Cover crock and place in a cool, dark place. As some evaporation always takes place, the crocks should be examined every few months to see if more solution is needed.

All eggs that are to be kept should be clean (not washed), fresh and infertile if possible. An infertile egg will keep longer than others. Clean, hard-shelled, perfectly fresh eggs will keep until prices come down in the late winter or spring. At this season it is not difficult to secure fresh eggs, for production is so abundant that markets are eagerly sought. In all cases it is advisable to know the source of supply, and candling the eggs will avoid any possible disappointment in their keeping qualities. An egg that is not in good condition may spoil and injure the others in the crock. Many farm homes can supply their own eggs for packing, and this is most satisfactory.



# Good Taste in the Home

By Mary Lee Adams

THE best time to improve the home interior is in the spring, preferably when house cleaning, for then rooms are upset anyway and it is more convenient—or less inconvenient—to repaper and rearrange at that time.

If your house just suits you, you are among the blessed and too fortunate to be interested in making it more livable and attractive, but most people would like to remodel a little and many do not know where to begin. Neither can anyone, without understanding the particular end in view, know where to advise beginning. But there are certain broad rules which, if followed, will help just lots in making the home appear in better taste.

## The Art of Arrangement

"Good arrangement," we are told, "results from observing two general principles: first, the arrangement of objects should follow, repeat or fit the structural outlines of the space used; second, objects should not be scattered over the space, but should be disposed in groups or masses in order that large open spaces may be left to set off the arrangement."

Those of you who read the series on "Beautifying the Home Grounds" that appeared in this magazine, may be struck by the similarity of this advice to that which was constantly urged upon amateur gardeners, and as you go on other points of likeness will strike you—proving that the principles of art are fundamentally the same whether applied indoors or out, and that what you learned about planning a flower garden will be of great help in planning a home.

## A Little Goes Far

Few persons have so much money that all the surplus could not be well expended on their home but, on the other hand, no one has so little that something may not be done with what is already in the house. Take the furniture for instance. If you can select it, you will be guided by considerations of price, appearance, utility, durability, comfort and fitness for its surroundings. But if selection is impossible, remember that what one needs for improving the looks of a room is frequently less rather than more. Too many rooms are crowded with things unnecessary for service and that make for confusion. Tranquility is an effect greatly to be prized and it cannot be attained by a jumble of unrelated objects. A mere change of position among such objects may, however, turn the trick.

If you cannot afford to buy what you want, at least the things you have may be placed to the best advantage. Try for yourself an experiment. Take a wall space between two windows. Put a large piece of furniture not just in the center of this space and set it diagonally on the floor, hang the pictures in irregular steps above it and loop back the curtains. Well there! no need to groan aloud, for with the same materials you may change the distracting effect into one of inviting quiet and harmony.

Place that piece of furniture in the center of the wall space and in line with the wall. Hang the pictures—not too high—so that the bottom of the frames may be on a level line. Let the window drapes hang straight. Why, just a glance at this gives an instant impression of repose.

## Color and Design

In the ordinary modest home of good taste, solid furniture of simple lines is much preferred to what looks elaborate. If it has not just the finish you wish, paint, polish or enamel will give it. Some of the best-looking bought furniture is painted in a manner that any careful amateur can imitate, and lovely color schemes may be worked out by the woman with the paint brush.

An injudicious use of color is as

dangerous as misplaced furniture in giving a restless, spotty effect to an otherwise agreeable room. Who has not seen the floor covered with a carpet of bright design laid right up to a figured wall papering, and with gaily patterned window draperies? To these may be added pictures which further break up any remaining saving sense of unoccupied space. Pictures are not seen well against a figured background. The design of the wall covering takes their place. As a matter of fact too many pictures of no intrinsic merit are used. If the walls are dim or of solid color, draperies and cushions may be somewhat gayer and more broken in treatment. With figured wall paper use plain draperies.

## Fitness Makes for Beauty

It is easy to see that a more dignified treatment is appropriate for a large apartment where company is to be received, than for the simple little farm bedroom which may be as cheery as you please, so long as the fundamental principles of good placing and good color harmony are preserved. Floor coverings generally should be inconspicuous and strike a graver note, while walls are less light than ceilings. This is in accord with our innate sense of the fitness of ascending toward the light. A room with deep, dark ceiling, medium dark walls and light, bright floor would make us feel that we were standing on our heads—or would like to.

A vivid note of pure color here and there is delightful if a delicate color-sense has guided the sure touch of daring. Such intense accents, however, must be used sparingly and serve to stimulate the eye rather than to startle it.

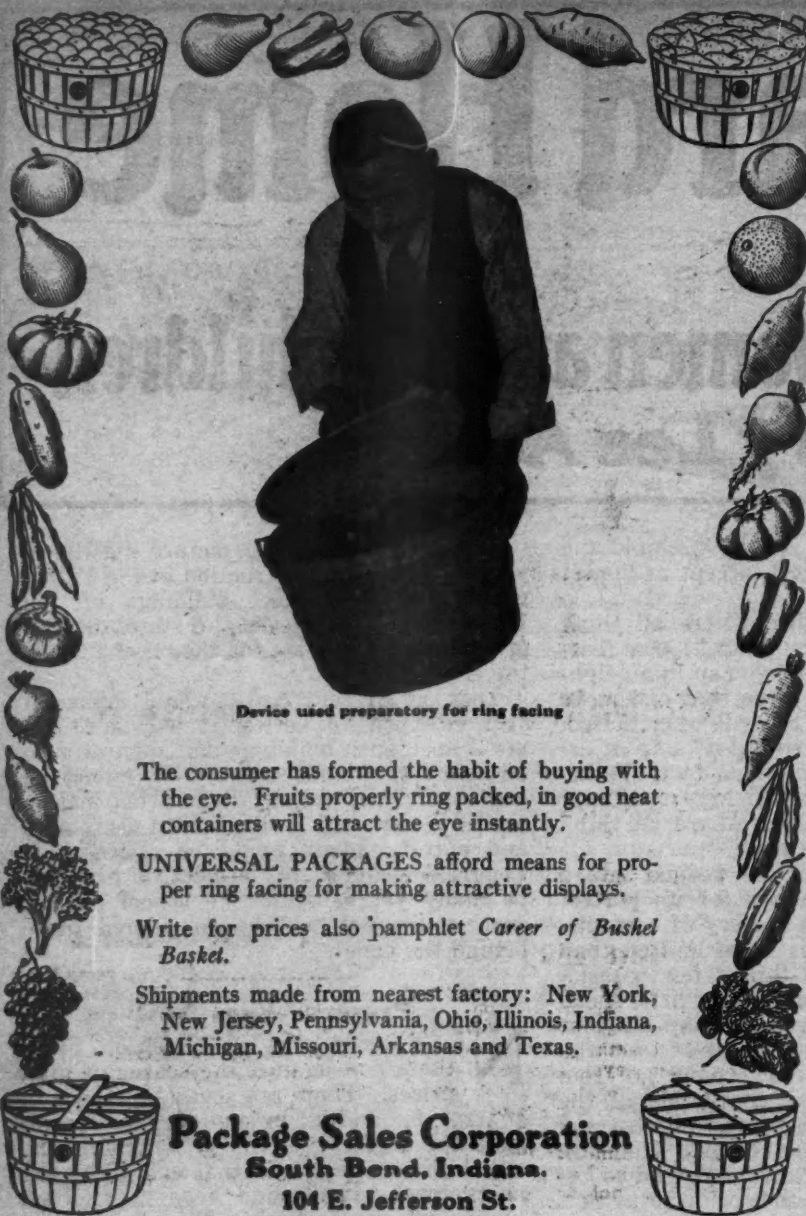
## Centers of Interest

If the living room be large enough, a table may be set in the middle or toward one end, with a reading lamp and books placed on it and chairs conveniently near. This forms a reading center of distinct interest. Such centers play a large part in the livableness of a room. A music center, with piano, bench and music stand, a hearth center where there is an open fireplace, give a sense of purpose and satisfaction. Desks, sewing chairs, and so on, should be set in well lighted spaces, while cabinets, beds, lounges may occupy darker places. An effect of greater breadth can be given a room by placing the large pieces of furniture crossways, or it may be made to seem longer and narrower by setting a sofa, buffet or bench against the lengthwise wall. Mirrors also will aid in adding the desired proportion but they are difficult to handle wisely save in a bedroom.

## Light and Color

Rooms with a southwest exposure, often flooded with sunshine, can be toned down by the use of colors tinged with cool blues or greens, while northern rooms are warmed to cheer by tinges of yellow and orange which brings sunshiny suggestions. Use vivid color in small quantities as emphasis and let the broad color masses be softer and dimmer to serve as a background for the more intense hues. Dark colors give richness, tend to make a room look smaller, tone down excessive light, but lack cheerfulness and are objectionable in a small room. Light colors give a sense of airy space and cleanliness and are especially appropriate for bedrooms, kitchens, bathrooms and closets.

Let the floor around the edge of a rug be finished with oil, paint, varnish or wax. Use plain draperies with striped or figured walls and vice versa. Place your larger furniture methodically and in alignment with the walls, leaving free floor space in which one may walk unafraid of bumping into small, cluttering objects. All men will approve such an arrangement.



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# The Luck of the Irish

By HAROLD MacGRATH

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## SYNOPSIS

In the plumbing shop of Burns, Dolan & Co. worked the Irish journeyman, William Grogan, whose view from the window of the shop was upon the sidewalk where he looked upon the ever-changing panorama of passing boots and shoes. William was somewhat of a dreamer, and to him the step of each passer-by was a wonderful story, whose plot was ever in embryo. But one pair of shoes in particular became of peculiar interest. They were feminine, and passed regularly at eight o'clock in the morning and four in the afternoon except on Saturday and Sunday. For three years he had watched them. William read a good deal and longed to see foreign lands, but always considered such a thing far beyond his means, as he saved his money in hopes that some day he might have a shop of his own. One day he received a letter from a law firm asking him to call. It developed that William had been left a large sum of money by an uncle who had just died. To suddenly come into possession of great wealth bewildered William, but he decided to use most of the money in buying an interest in the plumbing establishment where he worked, and to use the rest of it in gratifying his wish to see the world. After discussing with Mr. Burns the purchase of an interest in the business and buying a steamer ticket, William had a lively encounter at the doorway of a restaurant with a well-groomed man and an attractively-dressed woman. This installment finds him aboard the vessel for his foreign tour.

"Not so you'd notice it. The noble Nick didn't waste any soft soap. Hands up, Wall-eyed Mike; the jig is up. That's Nick's way. This Cellini chap didn't waste any guff that I noticed. When he saw a head he hit it."

She laughed. So far she had not found this amazing Irishman backward in the matter of retorts. He usually gave as good as he got. She liked him. For all his bewildering lingo, he possessed that rare attribute called personality. He was so breezy, so strong and active, that those about seemed to imbue some of the animal spirits which radiated from him. When she was with him she experienced a tingle and a zest in life. His voice and eyes were filled with electric fluids. It was too bad that he hadn't had the right chance in life. When she compared him with Camden, it struck her forcibly that the comparison was in the Irishman's favor. Camden soothed her, but his very soothing qualities seemed to arouse a subconscious irritation in her.

By constant reprimand she had succeeded in drawing William partially out of the morass of slang into which habit and association had thrown him. She was well enough informed to know that his phrases had been coined from the sporting pages of the newspapers—baseball, the prize-ring, and the race-tracks, all morally harmless, but intellectually corrupt.

The day before they reached Gibraltar, Italy as a lesson was about finished. Of all the splendid names he had heard, only three remained clearly defined: Michelangelo, Leonardo da Vinci, and Cellini. The truth is, aside from being great artists, the three had also been great fighters, and that is why their names and deeds stuck in William Grogan's head.

"Italy! Say, that makes me think. I've got an old friend in Naples—Tommaso Maffi. He and his wife kept the fruit-store next to the shop. I used to play with his kiddies noontimes. And many's the dish of spaghetti I've eaten with the family. He made his pile, six or seven hundred, sold out to Cipriano, and hiked for the old country. He'll be glad to see little Willie Grogan. He used to call me Gasparino Grogano, for sport. He tried to teach me some of his lingo, but I couldn't bat over 'git."

"Beg pardon, Mr. Grogan," said a voice at his elbow. It belonged to the purser. "I found this wallet of yours."

William seized it eagerly.

"Everything there?" asked the purser.

"Ye-ah. Where'd you find it?"

"Rather curious place. On the floor of my office. Some one had tossed it in through the port."

"Well, say, I never expected to see this again." William peered into the flap. "Yes, sir, and there's Mr. Goat. Thanks."

"Why," began the school-teacher, when the purser had gone. "I didn't know that you had lost anything."

"I didn't lose it," replied William, balancing the wallet on his palm, a speculative light in his eyes.

"What do you mean by that?"

"Somebody took it from me by force. Pretty smooth Indian, if you want to know. The doctor says it's jiu-jitsu. Jumped on my back, and I didn't have a ghost of a show. That accounts for that game leg of mine."

"But why should the thief return the wallet?"

"That's exactly what William Grogan is wondering."

## CHAPTER VII

William was confronted with a genuine mystery, and he wasn't sure that he liked it. He viewed the affair from all available angles, but he could not find shallow water anywhere. A man, possessed of a scientific knowledge of anatomy, had laid out William Grogan as nice as you please and taken his wallet; then he had given it back, indirectly; but that didn't matter—the act, not the method, was the important thing. It wasn't a question of belated conscience. The man hadn't gone through that series of gymnastics for the mere sport of it. It was possible, however, that the hold-up man had tackled the wrong individual. But even then, thirty dollars wouldn't grow any smaller for that. Finally he gave up the puzzle. There was neither head nor tail to it.

As he was leaving the purser's office the next morning, after having wisely deposited his letter of credit, he heard some one exclaim, "Spain!"

He ran out to the port rail. Blue sky and blue sea, and a thin ribbon of salmon-tinted rock in between; that was all he could see. But there was some peculiar magic in the sight; it stirred a thousand little cells in his head. Yonder was the Spain of the Armada, of the golden galleons and black-browed pirates, of mighty conquest and quick decay; and here was William Grogan, newsboy, messenger, apprentice, plumber, seeing it through his very own eyes. One was a great historical fact; the other was a plain, downright miracle.

As soon as the salmon-tinted coastline became monotonous, he drew away from the rail and searched the decks for his school-teacher, but could not find her. Doubtless she was preening up for the jaunt ashore.

The daughter of a man who had died in poverty—the single rift in the fog which enveloped her. I must confess that William laid a little innocent little trap, all of which she walked around serenely. That all was not well with her he had been assured frequently.

There were no rings on her fingers; but William knew that married women no longer wore their wedding-rings year in and year out as in his mother's day. Was she running away from something?

Once he had tiptoed around to his chair—it was at the hour when she generally dozed—to find her staring wide-eyed at a little chamois bag such as women carried their jewels in. At the sight of him she gave a little gasp and thrust the bag into the bosom of her dress. She smiled almost at once; but William would have preferred a frown. Was there anything in that chamois bag she was afraid he might see? The haste with which she had striven to hide it was not normal.

She was only twenty-two. Youth ought to have no mysteries.

Dismissing these unpleasant cogitations, William strolled around to the starboard side. Leaning over the rail were his two ancestors. For once they were not arguing. As there was space in between them, William shouldered in, smiling as usual. He was not above hectoring Greenwood, a flicker of the old-time gamin in his heart.

"This is the life!" he said.

"You like the sea?"

"Sure I do. But ain't she the cheerful old liar, though? Look at her now—mild as a cat with a platter of cream. But when she gets her back up, believe me!"

"Know anything about it?" asked Greenwood, the crochety one. For, while William was not above hectoring him, he on his part was not above laying traps for William's ignorance.

"Only what I can see on top."

The two old fellows looked at him rather blankly. They did not understand; so William went into details, and to these details he added some other interesting items.

"I was a newsboy once. I slept in alleyways, fought and scuffled for my pennies. Don't you think it's a pretty good sign that I'm taking this trip around the world? How should I know who this guy Shalmaneser was? I never went to school after I was nine. You look on me as a blamed idiot. Well, maybe I am. But did it ever occur to you that the men who built this old gondola, plate by plate, rivet by rivet, didn't know anymore about Shalmaneser than Kelly's goat? My interest is in live things, yours in dead. Yet my work is of more use to human beings than yours is."

"Indeed! And what is your work?" snapped Greenwood, not particularly relishing William's directness.

"I'm a plumber."

"I judged it might be something on that order."

"Is—that—so? Ye-ah; I'm a plumber. I help keep out dirt and grease; I



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put in bath-tubs, lay water-mains, sewers, and do the job well. Did you ever stop to think, when you turned a tap on at the top of a forty-story building, that it was a nifty bit of work to get it up there? What's the Himalayas to that? Inwardly William added, "Now, back away from that old stick-in-the-mud!"

Old stick-in-the-mud said never a word, but his companion spoke up.

"Young man, thanks for the rebuke. Each man has his niche, his work. And what matters so long as he does it well? Don't you say so, Arthur?"

"Well, yes, Henrik. Perhaps I'm a bit impatient at times. And maybe I judged Mr. Grogan as an idle young man. Suppose we call a truce and try to understand each other better?"

"Sure," agreed William, rather proud of having tamed the old fire-eater.

After a little silence, Clausen spoke up, a thrill in his voice.

"There's Africa, Arthur?"

"Say, I'd like to see Africa the way you two have. Ever read King Solomon's Mines?" William asked, shyly.

"Oh yes. A mighty readable fairy-story."

"Well, say! Next thing you'll be telling me you've read Old Sleuth."

Old stick-in-the-mud chuckled. "Well, maybe I have."

"Good Lord! Now I know you're human."

Laughter has dissolved more enmities, dissipated more gloom, welded more friendships than all your philosophies bunched together. And when this odd trio caught their breaths, they were friends.

From the jetty tender to the old-gun-galleries and back again, from this crooked street to that, past old landmarks bristling with deeds of valor, William and his school-teacher wandered.

She had some difficulty in preventing him from squandering his money upon useless gimcracks; but in spite of her vigilance he succeeded in buying several strings of coral beads (made of some kind of gum) and a spangled shawl he intended to take back to the Widow Hanlon, his landlady. He was soon to learn that he was entering a world of shopkeepers whose knowledge of truth was based upon hearsay only.

When they returned to the ship she was tired and happy and he was only happy. He grumbled a little because he could not wander through the town at night.

Camden, whom they had both forgotten, was leaning over the rail as the tender drew alongside. He soon picked out William, quite as easily as he would have picked out a poppy in a wheat-field. He watched the two thoughtfully. He saw William catch her by the arm and swing her to the platform of the ladder. It was one of those feats of strength that are not impressive because accomplished without apparent effort.

"Gad! the man is a Hercules! I'd like to see him in a real fight, a rough-and-tumble where his life depended upon it. I'd give a year of my life to witness something like that."

When William dressed for dinner that night he had the cabin to himself. He studied his face in the little mirror. To him that face appeared utterly hopeless. Red hair which wouldn't stay put unless he plastered it down, ears like pie-plant leaves, skin like a German trout's, neck like a stevedore's.

What was the use? He would always be a plumber. What woman would think of marrying a yep with a phis like his? Even the bellhops could see through the disguise; the dress-suit didn't hide anything.

So here we arrive at last, without further dilly-dallying. William was in love. The fact that until now his looks had never worried him deeply was sufficient proof of the state of his mind. The moment a man wants to be handsome he is riding for his fall. No man cares a rap for mere beauty among his kind; he wants nothing more than strength or cleverness. But let him think woman, and at once he desires the beauty of Antinous, the strength of Hercules, and the wisdom of Nestor.

William's school-teacher, however, did not think him ugly. To her he was only rugged and clean and kindly and amusing. She thought his eyes beautiful. His pug-nose, his generous mouth, even his freckles, all seemed to move with but one object, with but one purpose, to accentuate the beauty and expression of his eyes. I might go on and say that she was falling in love with him, but I should have to deny it later. She had her dreams even as he had his, but William Grogan had no place in them.

Well, toward such a reef the gulleless William was steering his argosy of love.

Late that night, when the upper deck was deserted, the girl stole out of her cabin and walked for a mile or more around the deck-houses. The sea was calm; there was not the slightest roll to the ship. Far away to starboard she saw the sail of a felucca as it tacked into the moonlight. She paused at the rail and watched it until it vanished as suddenly as it had appeared. Presently she looked up toward the brilliant moon and began to pray.

Why do prayers seem ineffectual unless uttered aloud? Is it because in silent prayer evil is still a force, strong

enough to break the thread, and we need the sound of our voice to give us confidence and fervor?"

"Dear God, make me strong. Take out of my heart the evil longings. Give me strength always to be good. Let me not covet that which is not mine. Clean my heart and put temptation behind me. Amen!"

She bent her head to the rail. William Grogan, standing behind a ventilator, a perfectly innocent eaves-dropper, never forgot that simple prayer. He took off his cap reverently and tipped away. But he carried with him the truth; the thunderclap rang in his ears. He loved this school-teacher of his with all the ardor of his Irish soul.

### CHAPTER VIII

William had picked up his odds and ends of life in the streets, and these, as I have already observed, had formed the basis of a cynical philosophy. But to offset this he possessed an imagination as boundless and irresponsible as the perspectives of a Chinese painter.

When he reached the forward rail, under the bridge, he stopped. His mind was awestruck. The two episodes, the prayer and the kindling of his heart, had shaken him profoundly. How he wanted her! How every drop of blood in his body leaped at the thought of her! And yet there was lacking that burning primordial desire to break down all barriers, brush aside all obstacles, crush anything that stood between him and this woman. Why? He saw clearly the immeasurable gulf. He was like that lantern up there at the masthead; and she was like one of those stars beyond. There was no earthly way of bridging such a gulf.

Evil and temptation; the words recurred to him. What had she done? From what had she fled? Who and what was she, after all? That for three years she had been a school-teacher was an established fact. But before that? Was there a husband in the coil somewhere? Evil and temptation.

She was good, anyhow. No woman could pray like that and not be good. It was just a simple prayer of a soul in trouble. His clean heart and his cynical knowledge fought over this conclusion.

"I'm a poor simp," he murmured, looking up at the moon and finding it far over the other side of the ship. He pulled out his watch—the old fat silver timepiece which had been his father's. Half after two!

It was time for bed.

He went to his chair, hoping to find her and yet relieved when he found her not. He was curious to learn how the sight of her would affect him in the daylight, now that he was assured that he loved her, but there was a generous portion of dread mixed with this curiosity. She was up and about somewhere, for some new books lay on her steamer rug. Baedekers; he knew that flaming red cover tolerably well by now.

To take a book from the chair of a friend during that friend's temporary absence could in no wise be looked upon as an indiscretion. William went over to the girl's chair and picked up the three volumes: Southern Italy, Central Italy, and Northern Italy. Idly he turned the cover of one book. On the fly-leaf he discovered a bit of writing—"Ruth Warren, her book." The two other volumes contained this name also. The signatures had been written quite recently, probably that very morning. No doubt this was her real name. The purser had these books for sale. It would be a simple matter to make an inquiry.

Yes, Miss Jones had bought three guide-books that morning.

"Anything turned up about that wallet of mine?"

"No, Mr. Grogan. That has turned out to be something of a mystery. No one has reported having found it."

"Well, I haven't lost any sleep over it," said William.

"Ruth Warren." When she had written that in those books she had forgotten; either that or she no longer cared. And if she didn't care, the past could not be very dark. He caught himself up sharply. Always ready to go soaring, always ready to make excuses. She had written her true name in an unguarded moment.

As a detective William might have made a passable success. If his logical deductions weren't up to the approved mark, he sometimes made shrewd guesses. If she had told the truth about her father being a professor and a man of science, it would not be difficult to prove it. So he proceeded to hunt up one of his ancestors, whom he found in the smoke-room, deep in one of George Eber's Egyptian tales.

"Good morning, Mr. Greenwood," said William, sitting down beside the old man.

"Ah, good morning, Mr. Grogan." The archeologist pushed aside his Tauchnitz reluctantly.

"Say, I was wondering if you could answer a question of mine. You know all about these scientific guys. Did you ever hear of a professor named Warren?"

"Warren?" ruminatively. "Why, yes, Professor Warren wrote a capital book on gravities."

"Is he alive?"  
"No; I believe he has been dead some years. If I'm not mistaken you'll find his book in the ship's library. It con-  
(To be continued)



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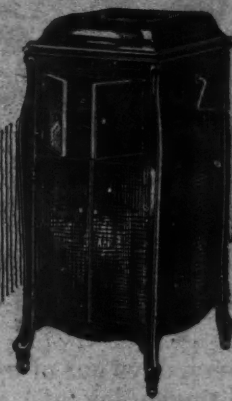
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**FOR SALE—2,400 ACRES ON JAMES RIVER IN** Virginia's famous fruit belt; \$10.00 per acre. 2,000 acre mountain tract in peach and orchard belt; \$7.50 per acre. 330 acres on railroad at station. Ideal for fruits, berries, trucking and poultry. Free catalogue mailed on request. American Realty Exchange, Richmond, Va.

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**FRUIT FARM, EASTERN OHIO. 130 ACRES. NEAR** Youngstown, home market, owner, E. L. Langacker, Canfield, O.

### PLANTS, TREES AND SEEDS

**GOOD BERRY PLANTS AT REASONABLE PRICES** delivered to you by Parcel Post. Dunlap Strawberry plants 50c per 100. Progressive overbearing, \$1.25 per 100. Black Raspberry, 50 plants, \$1.75; Blackberry Eldorado, 25 plants \$1.00; Red Raspberry, 50 plants, \$1.50; 15 Gooseberry, \$1.50; 10 Concord Grapes \$1.00; 50 Palmetto Asparagus Plants, 75c. Write for quantity prices. Stornes' Fruit Farm, Monmouth, Ill.

**FOR SALE AT BARGAIN: 2,000 FOUR-YEAR OLD** Jonathan and Stayman Winesap trees. Sound, healthy and in fine condition. Pine Ridge Farm, Salem, Iowa.

**STRAWBERRY PLANTS—BIG SURPLUS AT \$3 TO** \$4, 1,000. Last few or read our classified advertisement in April "Grower." Kiger's Nursery, Sawyer, Michigan.

**STRAWBERRY PLANTS—100,000 WORLD'S WON-** der, \$4, 1,000. 200,000 Big Joe (Not Johnson), a wonderful large new main crop variety, immensely productive, to be catalogued next season; special introductory price \$5, 1,000; and only 1,000 to a customer. Kiger's Nursery, Sawyer, Michigan.

### Top Grafting

I have a young mulberry tree which I would like to graft to some other fruit. I thought perhaps something like an apple or pear or some other fruit with a seed.—M. I. M., Pennsylvania.

**YOU** can not graft pear or apple on a mulberry tree. However, pear can be grafted on apple, or vice-versa. Both are what are known as "pip" fruits. The stone fruits can also be grafted on the different other stone fruits, for instance apricot can be budded on peach, peach on apricot, peach on plum, etc.

### Red Raspberries

Would it be all right to set out red raspberries (Cuthberts) on a piece of ground on which I had potatoes last year? This piece was heavily manured and the weeds kept down. It is clay loam and well drained.—A. M., Missouri.

**IT WOULD** be all right to plant red raspberries on the ground you describe. In fact, they should make an excellent growth. The good cultivation you gave this ground last year will undoubtedly put it in fine shape for the small raspberry plants.

### Controlling Moles

Please tell me through your column how to get rid of ground moles. They are destroying our lawn.—Mrs. G. M., Ohio.

**MOLES** can be trapped with steel traps which you can buy through your local hardware dealer. Good results are also secured by putting poisoned wheat in their runs. Of course, the poisoned wheat must be put under the ground, and full directions are given on the box of poisoned wheat which you can purchase from your local druggist.

While the weather is still warm, clean up the poultry house and give it a good disinfection with crude oil or lime-sulphur.

Cooperation got its start at Rochdale, England, in 1844.



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### Tractor Business

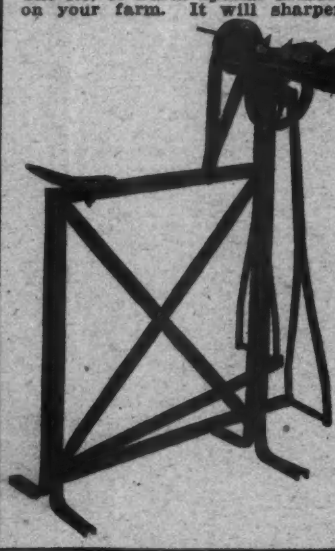
Earn \$150 to \$400 a Month Right in your own neighborhood by selling big-paying business. Learn to drive a car. Work on real Auto Trucks, Tractors. Write today for FREE 6-page Opportunity Book. Rahe School, Dept. 277, Cincinnati, Ohio.

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The No. 65 Farm Special Grinder was designed for general all-purpose use on your farm. It will sharpen anything—Discs, Harrows, plow shares, hatchets, axes, pruning, cooperage, hedge, weeder and belting knives, chisels, plane irons, pruning and hedge shears, mower knives and scythes—and in half the time usually required. It is a one-man tool—so light that it can easily be carried between rows—yet strong and sturdy to stand up under hard knocks and rough use. Equipped with a safety sickle holding attachment, two genuine Dime-Grit Grinding Wheels and an accurate, adjustable work rest.



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**A DEFINITE APPLE BARREL SUPPLY—KNOCKED** down standard size apple barrels! Write immediately for free booklet fully illustrating the Hollingshead Gold Standard Shook. J. D. Hollingshead Co., (Cooperage), LaSalle and Adams St., Chicago, Ill.

**FARM WANTED. SEND DESCRIPTION AND** price. John J. Black, Chippewa Falls, Wis.

**ATTENTION—FRUIT AND POTATO GROWERS AND** shippers. For sizers, sorters, carriers, elevators, packing house supplies, write to Fruit Appliance Co., Inc., Yakima, Washington.

**LARGE FRENCH FIELD GLASSES, CHEAP. BOX** 724, Cincinnati, Ohio.

**FREE SAMPLE ANNUAL SWEET CLOVER. 2c** postage. Jas. Kitchen, R. 5, Springfield, Ohio.

### POULTRY, DOGS AND LIVESTOCK

**BABY CHICKS—ALL POPULAR VARIETIES.** Prices reasonable. Catalogue free. Aerodale Poultry Farm, Box V, Springfield, Ohio.

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# ELAEAGNUS A JELLY FRUIT

THERE are many fruits as yet unknown commercially that have great possibilities, not only for ornamental purposes, but for food. One such plant was brought to our attention by F. E. Boynton of North Carolina. This was *Elaeagnus umbellata*, a plant closely related to the Russian olive although as different from the latter as a wild crab apple is different from a Jonathan. Along with several heavily fruited twigs, he sent a glass of jelly made from the fruit of this *Elaeagnus*. This jelly had a very good texture, dark red in color and with a very mild, delightful flavor. He also wrote a very interesting letter about some of the Asiatic plants that were imported by the Biltmore nurseries.

"I have found it very interesting to watch the behavior of many woody plants that were brought to this region through the nurseries of the Biltmore estate," writes Mr. Boynton. "It is a pity that the nursery had to be abandoned on the death of Mr. Vanderbilt. Many rare things that were offered by them cannot now be purchased from nurseries. Incidentally, I might say, that I have no plants of any kind to sell, but am farming on a small scale, with fruit growing as the main feature."

"Throughout this region there is plain evidence that at no very distant day, quite a number of plants native to Japan and China, and introduced as ornamentals, will become widely dispersed and eventually naturalized. Indeed this can already be said of the Japanese honeysuckle (*Lonicera Japonica*).

"Another shrub that is being scattered by birds is the wild rose of Japan (*Rosa multiflora*). This is a rank growing shrub, bearing numerous small white flowers which are followed by small berry-like hips which hang on all winter, or until eaten by birds. This rose is getting common along fences and neglected hedgerows where seeds have been carried by birds. What is especially interesting in this connection is the fact that every now and then a plant crops out that is unmistakably a natural hybrid, which has sprung from seed fertilized by pollen of one of our wild roses or some exotic."

"It is only a matter of time until the Chinese privet (*Ligustrum Sinese*) will become scattered all the way to the Gulf of Mexico. This shrub bears wonderful crops of berries, liked by many birds. It is even now growing in masses along the banks of some of our smaller rivers, where it is self-sown, and the seed will most certainly be carried down to the large rivers in times of freshet."

"The Empress tree (*Paulownia imperialis*) is being disseminated in a more restricted manner. In this case the wind is probably the agent responsible, for the seed are very small and light, and do not figure on the bill of fare of any of our birds."

"Perhaps the most interesting of all this class of plants is *Elaeagnus umbellata*, a large shrub introduced by the Biltmore estate many years ago. It often grows to 15 or more feet in height and with a spread of equal dimensions. It bears almost unbelievable crops of berries which ripen just before frost in the fall. The fruit makes a jelly of excellent quality."

"A friend who inspected a specimen of this shrub on my place said: 'What is the use of fooling with currants when one can have such a load of fruit on one plant, every bit as good too.' It seems entirely immune from all diseases and insect pests, and its blossoms so late that it invariably escapes frost damage. Its mass of small flowers produce a delightful odor, and are covered with bees and visited by numerous humming birds, indicating that they are rich in honey. The berries are a favorite diet of birds, and the seeds have been scattered in many directions, reproducing the shrub."

You cannot get a truck for less money  
that will work as well or last as long  
We doubt if you can get a better truck  
no matter what price you pay  
Eleven years reliable performance  
proves the merit of Federal Trucks

Another

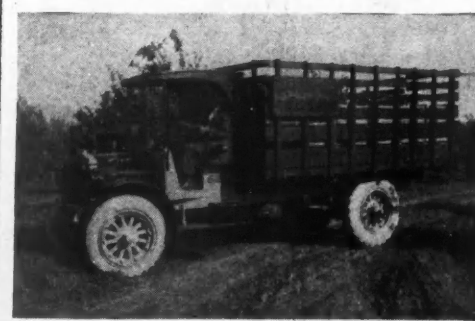
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## ATTENTION SALESMEN!

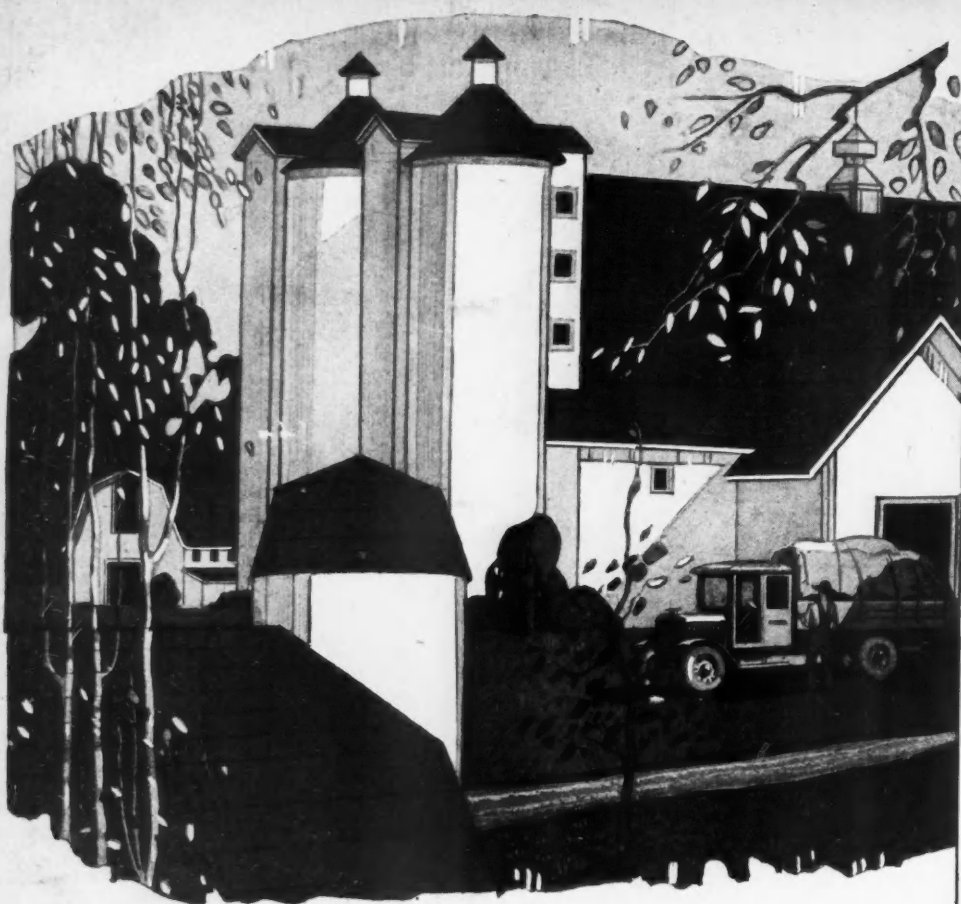
The AMERICAN FRUIT GROWER is now assigning territory to subscription representatives in Maine, New Hampshire, New York, New Jersey and Delaware.

If you live in these states or contemplate going in this section soon, place your application at once and represent the only national fruit publication in America. Salary and expenses paid.

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## Are Your Roofs a Protection or a Menace?

The greatest danger of fire lies in its spreading from one building to another—particularly in the case of structures roofed with wooden shingles. If one building catches fire, sparks and burning embers falling upon nearby roofs may turn a small blaze into a serious fire.

Barrett Everlastic Roofings minimize this fire hazard. The popular low-priced, plain-surfaced form—Everlastic “Rubber” Roofing—is highly fire-resistant. Falling sparks or hot cinders may char it in spots, but they cannot set it on fire.

The beautiful red or green Everlastic Single Shingles, Multi-Shingles and Slate Surfaced Roll Roofing have the additional protection of a surface heavily coated with real crushed slate. And yet they cost less than ordinary, inflammable wooden shingles.

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**Barrett  
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An attractive roof adds greatly to the appearance  
of the home

## The Everlastic Line



### Everlastic “Rubber” Roofing

A recognized standard among “rubber” roofings. Famous for its durability. Made of high-grade waterproofing materials, it defies wind and weather and insures dry, comfortable buildings under all weather conditions. Nails and cement included.

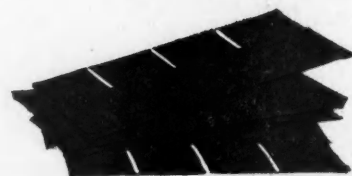
### Everlastic Slate-Surfaced Roofing

A high-grade roll roofing, surfaced with genuine crushed slate, in two natural shades, red or green. Needs no painting. Handsome enough for a home, economical enough for a barn or garage. Combines real protection against fire with beauty. Nails and cement with each roll.



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Made of high-grade, thoroughly waterproofed felt and surfaced with crushed slate in beautiful natural slate colors, either red or green. Laid



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